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=> d his

     (FILE 'HOME' ENTERED AT 07:19:30 ON 01 FEB 2009)

     FILE 'HCAPLUS' ENTERED AT 07:19:53 ON 01 FEB 2009
L1             1 S US20060204848/PN
                 SAV L1 TEMP MAR947/A
                 SEL L1 RN

     FILE 'REGISTRY' ENTERED AT 07:20:56 ON 01 FEB 2009
L2            12 S E1-E12
                 SAV TEMP L2 MAR947A/A


     FILE 'REGISTRY' ENTERED AT 07:33:49 ON 01 FEB 2009
L3        460904 S (LI/ELS OR LITHIUM OR 7439-93-2/CRN) OR (NA/ELS OR SODI
L4       1638539 S (MN/ELS OR MANGANESE OR 7439-96-5/CRN) OR (FE/ELS OR IR

     FILE 'LREGISTRY' ENTERED AT 07:38:47 ON 01 FEB 2009
L5               QUE (SI/ELS OR SILICON OR 7440-21-3/CRN) OR (S/ELS OR SUL

     FILE 'REGISTRY' ENTERED AT 07:43:05 ON 01 FEB 2009
L6       1685641 S (P/ELS OR PHOSPHORUS OR 7723-14-0/CRN)
L7               QUE (O/ELS OR OXYGEN OR 17778-80-2/CRN)
L8          9432 S L3 AND L4 AND L5 AND L7
L9          3503 S L3 AND L4 AND L6 AND L7
L10         2053 S L8 AND 4/O
L11         1999 S L9 AND 4/O
                 SAV TEMP L10 MAR947B/A
                 SAV TEMP L11 MAR947C/A
L12            1 S 33943-39-4

     FILE 'HCAPLUS' ENTERED AT 07:51:38 ON 01 FEB 2009
L13         2359 S L10
L14         2864 S L11
L15           98 S L12
L16           55 S (LI# OR LITHIUM#) (W) (HYDROGEN#) (W) (PHOSPHATE#) OR L
L17          131 S L15 OR L16
L18            3 S L13 AND L17
L19           15 S L14 AND L17
L20           12 S L19 NOT L18


     FILE 'REGISTRY' ENTERED AT 08:11:07 ON 01 FEB 2009
L21            1 S 67-42-5
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L22           1 S 139-13-9

     FILE 'HCAPLUS' ENTERED AT 08:11:38 ON 01 FEB 2009
L23        2855 S L21
L24        6823 S L22
L25           1 S L13 AND L23
L26           1 S L14 AND L23
L27           1 S L13 AND L24
L28           5 S L14 AND L24
L29           6 S L25-L28
L30           5 S L29 NOT (L18 OR L20)


     FILE 'REGISTRY' ENTERED AT 08:20:48 ON 01 FEB 2009
                 E DODECANE/CN
L31           1 S E3
                 E TRIBUTYL PHOSPHATE/CN
L32           1 S E3

     FILE 'HCAPLUS' ENTERED AT 08:21:18 ON 01 FEB 2009
L33       12109 S L32
L34       12083 S L31
L35           9 S (L10 OR L11) AND (L33 OR L34)
L36           9 S L35 NOT (L18 OR L20 OR L30)


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     (FILE 'HOME' ENTERED AT 07:19:30 ON 01 FEB 2009)

     FILE 'HCAPLUS' ENTERED AT 07:19:53 ON 01 FEB 2009
L1            1 SEA SPE=ON  ABB=ON  PLU=ON  US20060204848/PN
                 D L1 ALL
                 SAV L1 TEMP MAR947/A
                 SEL L1 RN

     FILE 'REGISTRY' ENTERED AT 07:20:56 ON 01 FEB 2009
L2           12 SEA SPE=ON  ABB=ON  PLU=ON  (10028-22-5/BI OR 12031-95-7/
                 BI OR 139-13-9/BI OR 15365-14-7/BI OR 16448-54-7/BI OR
                 21324-40-3/BI OR 24937-79-9/BI OR 33943-39-4/BI OR
                 616-38-6/BI OR 67-42-5/BI OR 9003-07-0/BI OR 96-49-1/BI)
                 D SCA
                 SAV TEMP L2 MAR947A/A

     FILE 'STNGUIDE' ENTERED AT 07:23:32 ON 01 FEB 2009

     FILE 'REGISTRY' ENTERED AT 07:33:49 ON 01 FEB 2009
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L3       460904 SEA SPE=ON  ABB=ON  PLU=ON  (LI/ELS OR LITHIUM OR
                7439-93-2/CRN) OR (NA/ELS OR SODIUM OR 7440-23-5/CRN)
L4      1638539 SEA SPE=ON  ABB=ON  PLU=ON  (MN/ELS OR MANGANESE OR
                7439-96-5/CRN) OR (FE/ELS OR IRON OR 7439-89-6/CRN) OR
                (NI/ELS OR NICKEL OR 7440-02-0/CRN) OR (CO/ELS OR COBALT
                OR 7440-48-4/CRN)

     FILE 'LREGISTRY' ENTERED AT 07:38:47 ON 01 FEB 2009
L5              QUE SPE=ON  ABB=ON  PLU=ON  (SI/ELS OR SILICON OR
                7440-21-3/CRN) OR (S/ELS OR SULFUR OR 7704-34-9/CRN) OR
                (AL/ELS OR ALUMINUM OR 7429-90-5/CRN) OR (GE/ELS OR
                GERMANIUM OR 7440-56-4/CRN) OR (AS/ELS OR ARSENIC OR
                7440-38-2/CRN) OR (MO/ELS OR MOLYBDENUM OR 7439-98-7/CRN)


     FILE 'REGISTRY' ENTERED AT 07:43:05 ON 01 FEB 2009
L6      1685641 SEA SPE=ON  ABB=ON  PLU=ON  (P/ELS OR PHOSPHORUS OR
                7723-14-0/CRN)
L7              QUE SPE=ON  ABB=ON  PLU=ON  (O/ELS OR OXYGEN OR 17778-80-
                2/CRN)
L8         9432 SEA SPE=ON  ABB=ON  PLU=ON  L3 AND L4 AND L5 AND L7
L9         3503 SEA SPE=ON  ABB=ON  PLU=ON  L3 AND L4 AND L6 AND L7
L10        2053 SEA SPE=ON  ABB=ON  PLU=ON  L8 AND 4/O
L11        1999 SEA SPE=ON  ABB=ON  PLU=ON  L9 AND 4/O
                SAV TEMP L10 MAR947B/A
                SAV TEMP L11 MAR947C/A
L12           1 SEA SPE=ON  ABB=ON  PLU=ON  33943-39-4

     FILE 'HCAPLUS' ENTERED AT 07:51:38 ON 01 FEB 2009
L13        2359 SEA SPE=ON  ABB=ON  PLU=ON  L10
L14        2864 SEA SPE=ON  ABB=ON  PLU=ON  L11
L15          98 SEA SPE=ON  ABB=ON  PLU=ON  L12
L16          55 SEA SPE=ON  ABB=ON  PLU=ON  (LI# OR LITHIUM#) (W)
                (HYDROGEN#) (W) (PHOSPHATE#) OR LI2HPO4
L17         131 SEA SPE=ON  ABB=ON  PLU=ON  L15 OR L16
L18           3 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND L17
L19          15 SEA SPE=ON  ABB=ON  PLU=ON  L14 AND L17
L20          12 SEA SPE=ON  ABB=ON  PLU=ON  L19 NOT L18
                D L20 HITSTR

     FILE 'STNGUIDE' ENTERED AT 08:03:07 ON 01 FEB 2009

     FILE 'REGISTRY' ENTERED AT 08:11:07 ON 01 FEB 2009
L21           1 SEA SPE=ON  ABB=ON  PLU=ON  67-42-5
L22           1 SEA SPE=ON  ABB=ON  PLU=ON  139-13-9

     FILE 'HCAPLUS' ENTERED AT 08:11:38 ON 01 FEB 2009
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L23         2855 SEA SPE=ON  ABB=ON  PLU=ON  L21
L24         6823 SEA SPE=ON  ABB=ON  PLU=ON  L22
L25            1 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND L23
L26            1 SEA SPE=ON  ABB=ON  PLU=ON  L14 AND L23
L27            1 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND L24
L28            5 SEA SPE=ON  ABB=ON  PLU=ON  L14 AND L24
L29            6 SEA SPE=ON  ABB=ON  PLU=ON  (L25 OR L26 OR L27 OR L28)
L30            5 SEA SPE=ON  ABB=ON  PLU=ON  L29 NOT (L18 OR L20)

     FILE 'LREGISTRY' ENTERED AT 08:17:56 ON 01 FEB 2009

     FILE 'REGISTRY' ENTERED AT 08:20:48 ON 01 FEB 2009
                E DODECANE/CN
L31            1 SEA SPE=ON  ABB=ON  PLU=ON  DODECANE/CN
                E TRIBUTYL PHOSPHATE/CN
L32            1 SEA SPE=ON  ABB=ON  PLU=ON  "TRIBUTYL PHOSPHATE"/CN

     FILE 'HCAPLUS' ENTERED AT 08:21:18 ON 01 FEB 2009
L33        12109 SEA SPE=ON  ABB=ON  PLU=ON  L32
L34        12083 SEA SPE=ON  ABB=ON  PLU=ON  L31
L35            9 SEA SPE=ON  ABB=ON  PLU=ON  (L10 OR L11) AND (L33 OR
                L34)
L36            9 SEA SPE=ON  ABB=ON  PLU=ON  L35 NOT (L18 OR L20 OR L30)

     FILE 'STNGUIDE' ENTERED AT 08:23:40 ON 01 FEB 2009


     FILE HOME

     FILE HCAPLUS

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     FILE COVERS 1907 - 1 Feb 2009  VOL 150 ISS 6
     FILE LAST UPDATED: 29 Jan 2009  (20090129/ED)

     HCAplus now includes complete International Patent Classification (I
     reclassification data for the third quarter of 2008.
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FILE REGISTRY
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DICTIONARY FILE UPDATES: 29 JAN 2009 HIGHEST RN 1097778-52-3

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http://www.cas.org/support/stngen/stndoc/properties.html

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jan 30, 2009 (20090130/UP).

FILE LREGISTRY
LREGISTRY IS A STATIC LEARNING FILE

NEW CAS INFORMATION USE POLICIES, ENTER HELP USAGETERMS FOR DETAILS.

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YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L18 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:816094 HCAPLUS Full-text
DN 149:204396
TI Preparation of metal-doped ferrous oxalate dihydrate as iron source

material for preparing metal-doped lithium iron(II) phosphate for use in lithium ion batteries

IN Cao, Wenyu; Zhang, Shuiyuan; Xiao, Feng
PA BYD Company Limited, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 26pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

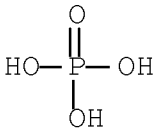
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101209820	A	20080702	CN 2006-10167328	200612 27

PRAI CN 2006-10167328 20061227

AB Metal-doped ferrous oxalate dihydrate is prepared by contacting a ferrous salt (ferrous sulfate, ferrous chloride and/or ferrous acetate) and a soluble nonferrous metal salt with an oxalate salt till the pH of the mixed solution is 3-6. The nonferrous metal salt can be a sulfate, nitrate and/or chloride of a IIA metal, IIIA metal, IVA metal, such as magnesium sulfate, aluminum sulfate, or zirconium sulfate. The oxalate can be sodium oxalate, potassium oxalate, ammonium oxalate, and/or lithium oxalate. The lithium iron phosphate is prepared by sintering a mixture of a lithium source, phosphorus source and the iron source material at 650-850° for 8-40 h in an inert gas or reducing gas atm; followed by cooling. The lithium source can be lithium hydroxide, lithium carbonate, or lithium acetate. The phosphorus source can be ammonium phosphate, ammonium hydrogen phosphate, or lithium phosphate. The mol. ratio of lithium to iron to phosphorus is (1-1.07):1:1. The obtained lithium iron(II) phosphate has a small particle size, uniform particles, good conductivity and electrochem. properties.

IT 554453-36-0P, Aluminum iron lithium phosphate
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(preparation of metal-doped ferrous oxalate dihydrate as iron source
material for preparing metal-doped FeLiPO4 for use in lithium ion batteries)

RN 554453-36-0 HCAPLUS
CN Phosphoric acid, aluminum iron lithium salt (9CI) (CA INDEX NAME)

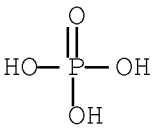


●x Al

●x Fe(x)

●x Li

IT 33943-39-4, DiLithium hydrogen phosphate
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(preparation of metal-doped ferrous oxalate dihydrate as iron source
material for preparing metal-doped FeLiPO4 for use in lithium ion batteries)
RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)



●2 Li

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
IT 554453-36-0P, Aluminum iron lithium phosphate
554453-37-1P, Iron lithium zirconium phosphate 554453-38-2P, Iron lithium manganese phosphate 554453-42-8P, Iron lithium magnesium phosphate 912841-83-9P, Cobalt iron lithium phosphate
912841-84-0P, Iron lithium nickel phosphate

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(preparation of metal-doped ferrous oxalate dihydrate as iron source
material for preparing metal-doped FeLiPO4 for use in lithium ion batteries)

IT 62-76-0, Sodium oxalate 546-89-4, Lithium acetate 553-91-3, Lithium oxalate 554-13-2, Lithium carbonate 583-52-8, Potassium oxalate 1113-38-8, Ammonium oxalate 1310-65-2, Lithium hydroxide 3094-87-9, Ferrous acetate 7446-70-0, Aluminum chloride, reactions 7646-79-9, Cobaltous chloride, reactions 7718-54-9, Nickelous chloride, reactions 7720-78-7, Ferrous sulfate 7722-76-1, Ammonium dihydrogen phosphate 7733-02-0, Zinc sulfate 7758-94-3, Ferrous chloride 7772-99-8, Stannous chloride, reactions 7773-01-5, Manganous chloride 7782-63-0, Ferrous sulfate heptahydrate 7783-28-0, Ammonium hydrogen phosphate 7784-31-8, Aluminum sulfate octadecahydrate 7785-87-7, Manganous sulfate 7786-30-3, Magnesium chloride, reactions 7790-69-4, Lithium nitrate 10034-99-8, Magnesium sulfate heptahydrate 10043-52-4, Calcium chloride, reactions 10099-59-9, Lanthanum nitrate 10101-97-0, Nickel sulfate hexahydrate 10124-43-3, Cobaltous sulfate 10361-37-2, Barium chloride, reactions 10361-65-6, TriAmmonium phosphate 10377-52-3, Lithium phosphate 10377-60-3, Magnesium nitrate 10476-85-4, Strontium chloride 13453-80-0, Lithium dihydrogen phosphate 13473-90-0, Aluminum nitrate 13746-89-9, Zirconium nitrate 33943-39-4, DiLithium hydrogen phosphate
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(preparation of metal-doped ferrous oxalate dihydrate as iron source
material for preparing metal-doped FeLiPO4 for use in lithium ion batteries)

L18 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2005:409830 HCAPLUS Full-text
DN 142:466462
TI Product and method for the processing of precursors for lithium phosphate electrode active materials for batteries
IN Adamson, George; Barker, Jeremy; Dirilo, Allan; Faulkner, Titus; Saidi, Yazid M.; Swoyer, Jeffrey
PA Valence Technology, Inc., USA
SO PCT Int. Appl., 61 pp.
CODEN: PIXXD2
DT Patent
LA English

FAN.CNT 1

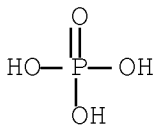
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005043647	A2	20050512	WO 2004-US34229	20041015
	WO 2005043647	A3	20060511		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 20050194567	A1	20050908	US 2004-961673	20041008
	US 7348100	B2	20080325		
	CA 2542790	A1	20050512	CA 2004-2542790	20041015
	DE 112004001997	T5	20061026	DE 2004-112004001997	20041015
	CN 1871726	A	20061129	CN 2004-80031066	20041015
	US 20080157024	A1	20080703	US 2008-46942	20080312
PRAI	US 2003-513242P	P	20031021		
	US 2004-961673	A	20041008		
	WO 2004-US34229	W	20041015		

AB The invention concerns methods for producing an electrode active material precursor, comprising: (a) producing a mixture comprising particles of lithium hydrogen phosphate , having a first average particle size, and a metal hydroxide, having a second average particle size; and (b) grinding the mixture in a jet mill for a period of time suitable to produce a generally homogeneous mixture of particles having a third average size smaller than the first average size. The precursor may be used as a starting material for making

electrode active materials for use in a battery, comprising lithium, a transition metal, and phosphate or a similar anion.

IT 33943-39-4, DiLithium hydrogen phosphate
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(product and method for processing of precursors for lithium phosphate electrode active materials for batteries)

RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)



IT 610271-87-9 610271-90-4 610271-94-8
610271-97-1 610272-06-5
RL: DEV (Device component use); USES (Uses)
(product and method for processing of precursors for lithium phosphate electrode active materials for batteries)

RN 610271-87-9 HCAPLUS
CN Aluminum cobalt iron lithium magnesium phosphate (Al0.02Co0.85Fe0.05Li1.02Mg0.05(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	1	14265-44-2
Co	0.85	7440-48-4
Mg	0.05	7439-95-4
Li	1.02	7439-93-2
Fe	0.05	7439-89-6
Al	0.02	7429-90-5

RN 610271-90-4 HCAPLUS
CN Aluminum cobalt iron lithium magnesium manganese phosphate (Al0.02Co0.7Fe0.08Li1.02Mg0.05Mn0.12(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number

O4P	1	14265-44-2
Co	0.7	7440-48-4
Mn	0.12	7439-96-5
Mg	0.05	7439-95-4
Li	1.02	7439-93-2
Fe	0.08	7439-89-6
Al	0.02	7429-90-5

RN 610271-94-8 HCAPLUS
CN Aluminum cobalt iron lithium magnesium phosphate (Al0.02Co0.8Fe0.1Li1.02Mg0.05(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	1	14265-44-2
Co	0.8	7440-48-4
Mg	0.05	7439-95-4
Li	1.02	7439-93-2
Fe	0.1	7439-89-6
Al	0.02	7429-90-5

RN 610271-97-1 HCAPLUS
CN Aluminum cobalt iron lithium magnesium phosphate (Al0.02Co0.75Fe0.15Li1.02Mg0.05(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	1	14265-44-2
Co	0.75	7440-48-4
Mg	0.05	7439-95-4
Li	1.02	7439-93-2
Fe	0.15	7439-89-6
Al	0.02	7429-90-5

RN 610272-06-5 HCAPLUS
CN Aluminum cobalt iron lithium titanium phosphate (Al0.02Co0.8Fe0.1Li1.02Ti0.02(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	1	14265-44-2
Co	0.8	7440-48-4
Ti	0.02	7440-32-6

Li	1.02	7439-93-2
Fe	0.1	7439-89-6
Al	0.02	7429-90-5

IC ICM H01M
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 1305-62-0, Calcium hydroxide, processes 1309-37-1, Ferric oxide, processes 1309-42-8, Magnesium hydroxide 33943-39-4, DiLithium hydrogen phosphate
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(product and method for processing of precursors for lithium phosphate electrode active materials for batteries)
IT 15365-14-7, Iron lithium phosphate felipo4 77641-62-4, Nasicon 349632-85-5, Iron lithium magnesium phosphate Fe0.8LiMg0.2PO4 610271-87-9 610271-90-4 610271-94-8 610271-97-1 610272-06-5 610310-97-9 610321-55-6 610321-57-8 610321-60-3 610754-69-3 632286-77-2, Iron lithium magnesium phosphate Fe0.9LiMg0.1PO4 771556-74-2
RL: DEV (Device component use); USES (Uses)
(product and method for processing of precursors for lithium phosphate electrode active materials for batteries)
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2004:78425 HCAPLUS Full-text
DN 140:131129
TI Alkali metal hydrogen phosphates as precursors for electrode active materials
IN Adamson, George W.; Barker, Jeremy; Faulkner, Titus; Saidi, M. Yazid; Swoyer, Jeffrey
PA Valence Technology, Inc., USA
SO U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 20040018135	A1	20040129	US 2002-205746	20020726
US 6794084	B2	20040921		
CA 2493224	A1	20040205	CA 2003-2493224	20030707

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WO 2004011403 A2 20040205 WO 2003-US23167
200307
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CN 1672277 A 20050921 CN 2003-817853
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CN 100334757 C 20070829

JP 2005533742 T 20051110 JP 2004-524777
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25

PRAI US 2002-205746 A 20020726
WO 2003-US23167 W 20030725

AB An alkali metal hydrogen phosphate compound of the formula AxH3-xPO4, wherein A is an alkali metal and 0<x<3, is prepared by mixing an alkali metal-containing basic compound, such as Li2CO3 or LiOH with phosphoric acid containing 5-25 weight% of water, agitating the mixture continuously, followed by drying and milling. An electrode active material is prepared having the general formula AaMb(PO4)cZd, wherein A is at least one alkali metal, M is at least one element capable of undergoing oxidation to a higher valence state, Z is a halogen or a hydroxy group, 0<a≤6, 1≤b≤3, 1≤c≤3, and 0≤d≤2, wherein M, Z, a, b, c and d are selected so as to maintain electroneutrality. To prepare the electrode active material an alkali metal hydrogen phosphate is mixed with an M-containing compound, followed by heating. M is at least one transition metal, such as Ti, V, Cr, Mn, Fe, Co, Ni, or Cu. The electrode active material can contain addnl. non-transition metals, such as Be, Mg, Ca, Sr, Ba Zn, Cd, Pb, Sn, Sc, Y, La, B, Al, Ga, or In. The manufacture electrodes the produced material is mixed with carbon.

IT 649560-54-3P

RL: DEV (Device component use); NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(electrode material; alkali metal hydrogen phosphates as precursors for electrode active materials)

RN 649560-54-3 HCAPLUS
CN Aluminum cobalt iron lithium magnesium titanium phosphate (Al0.02Co0.8Fe0.1Li1.02Mg0.02Ti0.02(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	1	14265-44-2
Co	0.8	7440-48-4
Ti	0.02	7440-32-6
Mg	0.02	7439-95-4
Li	1.02	7439-93-2
Fe	0.1	7439-89-6
Al	0.02	7429-90-5

IC ICM C01B015-16
ICS C01B025-26
INCL 423313000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
ST lithium hydrogen phosphate electrode material secondary battery
IT 649560-44-1P 649560-54-3P
RL: DEV (Device component use); NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(electrode material; alkali metal hydrogen phosphates as precursors for electrode active materials)
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L20 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:1487731 HCAPLUS Full-text
DN 150:80802
TI Method for preparing lithium manganese phosphate as cathode material for lithium ion battery
IN Yue, Min; Hou, Chunping; He, Xueqin; Zhang, Wanhong
PA Shenzhen BTR New Energy Materials Inc., Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 27pp.
CODEN: CNXXEV
DT Patent

LA Chinese
FAN.CNT 1

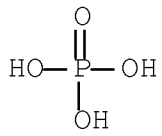
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 101320809	A	20081210	CN 2008-10141632	200807 17

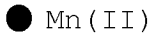
PRAI CN 2008-10141632 20080717

AB The title cathode material is composed of lithium manganese phosphate particles coated with carbon material 1-3 weight% of lithium manganese phosphate. The cathode material has a sp. surface area of 5-40 m2/g and a tap d. of 1.0-1.6 g/mL. The title method comprises preparing nanoparticles, performing liquid-phase mixing reaction, preparing precursor, torrefying, and coating with the carbon material. The cathode material has high electronic conductivity, no agglomeration, high charge/discharge capacity, high cycle stability, high safety, easy preparation, low cost, and little influence to environment.

IT 13826-59-0P, Lithium manganese phosphate
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for preparing lithium manganese phosphate as cathode material for lithium ion battery)

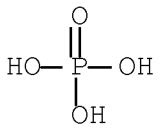
RN 13826-59-0 HCAPLUS
CN Phosphoric acid, lithium manganese(2+) salt (1:1:1) (9CI) (CA INDEX NAME)

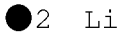




IT 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for preparing lithium manganese phosphate as cathode

material for lithium ion battery)
RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)





CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
IT 13826-59-0P, Lithium manganese phosphate
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for preparing lithium manganese phosphate as cathode material for lithium ion battery)
IT 50-81-7, Ascorbic acid, reactions 50-99-7, Glucose, reactions 56-81-5, Glycerol, reactions 57-13-6, Urea, reactions 57-48-7, Fructose, reactions 57-50-1, Sucrose, reactions 77-92-9, Citric acid, reactions 79-10-7, Acrylic acid, reactions 87-69-4, Tartaric acid, reactions 546-89-4, Lithium acetate 553-54-8, Lithium benzoate 553-91-3, Lithium oxalate 554-13-2, Lithium carbonate 556-63-8, Lithium formate 919-16-4, Lithium citrate 1310-65-2, Lithium hydroxide 1313-13-9, Manganese dioxide, reactions 1314-56-3, Phosphorus pentoxide, reactions 1317-34-6, Manganese sesquioxide 1907-33-1 2180-18-9, Manganese acetate 7447-41-8, Lithium chloride, reactions 7550-35-8, Lithium bromide 7558-79-4, Disodium hydrogen phosphate 7558-80-7, Sodium dihydrogen phosphate 7664-38-2, Phosphoric acid, reactions 7722-76-1, Ammonium dihydrogen phosphate 7758-11-4, Dipotassium hydrogen phosphate 7778-77-0, Potassium dihydrogen phosphate 7783-28-0, Diammonium hydrogen phosphate 7789-24-4, Lithium fluoride, reactions 7790-69-4, Lithium nitrate 9002-84-0, Polytetrafluoroethylene 9002-89-5, Polyvinyl alcohol 9003-08-1, Melamine resin 9003-53-6, Polystyrene 9004-34-6, Cellulose, reactions 9011-05-6, Urea-formaldehyde resin 9011-14-7, Polymethyl methacrylate 10124-31-9, Ammonium phosphate 10377-48-7, Lithium sulfate 10377-51-2, Lithium iodide 10377-52-3, Lithium phosphate 12626-88-9, Manganese hydroxide 13453-80-0, Lithium dihydrogen phosphate 14024-11-4, Lithium

aluminum tetrachloride 14283-07-9, Lithium tetrafluoroborate 14307-35-8, Lithium chromate 24937-79-9, Poly(vinylidene fluoride) 25014-41-9, Polyacrylonitrile 25322-68-3, Polyethylene glycol 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for preparing lithium manganese phosphate as cathode material for lithium ion battery)

L20 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:875000 HCAPLUS Full-text
DN 149:248763
TI Method for preparing electrode material with ferrophosphorus
IN Wang, Guixin; Yan, Kangping
PA Sichuan University, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

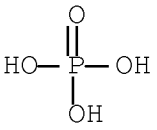
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 101219783	A	20080716	CN 2008-10045243	200801 23

PRAI CN 2008-10045243 20080123

AB The title method can prepare electrode material such as LiFePO4, LiFePO4/FeP2, LiFePO4/C, Li3Fe2(PO4)3, FeP, FeP2, Fe2P, Fe3P, Fe-Co-P, Fe-Ni-P, Fe-Ni-Co-P, etc. from ferrophosphorus with or without addition of other elements by mech. activation method, reaction pulverization method, rheol. phase reaction method, spray drying method, spray pyrolysis method, solid phase method, microwave method, H2O/alc. thermal synthesis method, sol-gel method, ion exchange method, etc. The method has the advantages of wide raw material resources, low cost, simple operation, short flow process, etc., and realizes comprehensive use of resources.

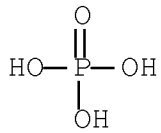
IT 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for preparing electrode material with ferrophosphorus)

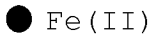
RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)



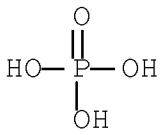
IT 15365-14-7P, Iron lithium phosphate (FeLiPO4)
36058-25-0P, Iron lithium phosphate (Fe2Li3(PO4)3)
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for preparing electrode material with ferrophosphorus)

RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)





RN 36058-25-0 HCAPLUS
CN Phosphoric acid, iron(3+) lithium salt (3:2:3) (9CI) (CA INDEX NAME)



●2/3 Fe(III)

● Li

CC 49-5 (Industrial Inorganic Chemicals)
Section cross-reference(s): 52
IT 546-89-4, Lithium acetate 554-13-2, Lithium carbonate 1310-65-2, Lithium hydroxide 10377-52-3, Lithium phosphate 13453-80-0, Lithium dihydrogen phosphate 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for preparing electrode material with ferrophosphorus)
IT 12674-76-9P 15365-14-7P, Iron lithium phosphate (FeLiPO4) 36058-25-0P, Iron lithium phosphate (Fe2Li3(PO4)3) 50954-84-2P 71849-39-3P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for preparing electrode material with ferrophosphorus)

L20 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:735672 HCAPLUS Full-text
DN 149:152744
TI Method for preparing ferrous oxalate used in preparation of lithium ferrous phosphate
IN Cao, Wenyu; Zhang, Shuiyuan; Xiao, Feng
PA Byd Co., Ltd., Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 18pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101200422	A	20080618	CN 2006-10167409	200612

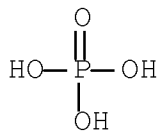
PRAI CN 2006-10167409 20061215

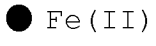
AB The invention discloses a method for preparing ferrous oxalate through performing contact between ferrous salt solution flow and oxalate solution flow. The pH value of the obtained mixture is controlled at 2-6 by adjusting the flow rates of the ferrous salt solution flow and oxalate solution flow. By the method, lithium ferrous phosphate particles with high uniformity, small sizes, high carbon distribution uniformity, and good electrochem. properties can be obtained.

IT 15365-14-7P, Ferrous lithium phosphate
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(method for preparing ferrous oxalate used in preparation of lithium
ferrous phosphate)

RN 15365-14-7 HCAPLUS

CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)

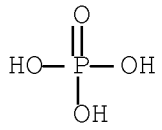




IT 33943-39-4, Dilithium hydrogenphosphate
RL: RGT (Reagent); RACT (Reactant or reagent)
(method for preparing ferrous oxalate used in preparation of lithium
ferrous phosphate)

RN 33943-39-4 HCAPLUS

CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)



CC 23-16 (Aliphatic Compounds)
Section cross-reference(s): 45, 72
IT 15365-14-7P, Ferrous lithium phosphate
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(method for preparing ferrous oxalate used in preparation of lithium
ferrous phosphate)
IT 546-89-4, Lithium acetate 554-13-2, Lithium carbonate 1310-65-2, Lithium hydroxide 3094-87-9, Ferrous acetate 7720-78-7, Ferrous sulfate 7722-76-1, Ammonium dihydrogenphosphate 7758-94-3, Ferrous chloride 7783-28-0, Diammonium phosphate 7790-69-4, Lithium nitrate 10361-65-6, Triammonium phosphate 10377-52-3, Lithium phosphate 13453-80-0, Lithium dihydrogenphosphate 33943-39-4, Dilithium hydrogenphosphate
RL: RGT (Reagent); RACT (Reactant or reagent)
(method for preparing ferrous oxalate used in preparation of lithium
ferrous phosphate)

L20 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:450742 HCAPLUS Full-text
DN 148:520660
TI LiFePO4/C nano-composite cathode material and its manufacture
IN Xu, Yunlong; Ma, Hongyan; Tao, Lili
PA Shanghai Weina Company, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 11pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101159328	A	20080409	CN 2007-10043889	200707

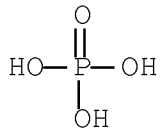
PRAI CN 2007-10043889 20070717

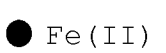
AB The title cathode material is obtained by (1) weighing a Li source, an iron source, and a phosphorus source at a molar ratio of (3.0-3.3):(1.0-1.1):(1.0-1.1), and adding in a reaction container with an appropriate quantity of a carbon doped material and organic surfactant, (2) controlling the concentration and temperature of reaction solution to obtain a precursor gel, separating, washing, filtering and drying to obtain a precursor powder, and (3) tableting, putting in a crucible having a microwave absorbent, placing the crucible in a microwave oven, and heating for 3-30 min under 100-600 W to obtain the final product. The method has short preparation period, low energy consumption, and easy control of process, and is suitable for industrial production The cathode material has high purity, small particle size (< 100 nm), and good electrochem. properties.

IT 15365-14-7P, Iron lithium phosphate (FeLiPO4)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of LiFePO4/C composite cathode materials for secondary lithium batteries)

RN 15365-14-7 HCAPLUS

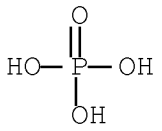
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)

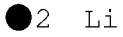




IT 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of LiFePO4/C composite cathode materials for secondary lithium batteries)

RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)





CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 15365-14-7P, Iron lithium phosphate (FeLiPO4)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of LiFePO4/C composite cathode materials for secondary lithium batteries)
IT 546-89-4, Lithium acetate 1310-65-2, Lithium hydroxide 7447-41-8, Lithium chloride, reactions 7664-38-2, Phosphoric acid, reactions 7720-78-7, Ferrous sulfate 7722-76-1, Ammonium dihydrogen phosphate 7783-28-0, Diammonium hydrogen phosphate 7790-69-4, Lithium nitrate 10045-89-3, Ammonium ferrous sulfate 10421-48-4, Ferric nitrate 13453-80-0, Lithium dihydrogen phosphate 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of LiFePO4/C composite cathode materials for secondary lithium batteries)

L20 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:428956 HCAPLUS Full-text
DN 148:474802
TI Preparation method of lithium iron phosphate used as cathode active material for lithium ion secondary battery
IN Liu, Fei
PA Byd Company Limited, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 20pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

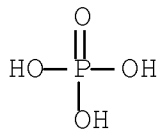
PI	CN 101152960	A	20080402	CN 2006-10152271 200609 27
PRAI	CN 2006-10152271		20060927	

AB The title method comprises mixing elec. conductive particles, ferric ion- or ferrous ion-containing solution, and phosphate-containing solution at an Fe/P mol. ratio of (1-1.3):1, precipitating, separating solid, washing to obtain ferric or ferrous phosphate precipitation containing elec. conductive particles, mixing with Li source, and calcining at 500-900° for 8-48 h in inert or reducing atmospheric The cathode active material has good crystal structure and high specific capacitance.

IT **15365-14-7P**, Iron lithium phosphate (FeLiPO4)
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of lithium iron phosphate as cathode active material for
lithium ion secondary battery)

RN 15365-14-7 HCAPLUS

CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



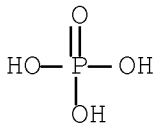
● Fe(II)

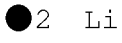
● Li

IT **33943-39-4**, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of lithium iron phosphate as cathode active material for
lithium ion secondary battery)

RN 33943-39-4 HCAPLUS

CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)





CC 49-5 (Industrial Inorganic Chemicals)
Section cross-reference(s): 52
IT **15365-14-7P**, Iron lithium phosphate (FeLiPO4)
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of lithium iron phosphate as cathode active material for
lithium ion secondary battery)
IT 516-03-0, Ferrous oxalate 546-89-4, Lithium acetate 553-91-3, Lithium oxalate 554-13-2, Lithium carbonate 1310-65-2, Lithium hydroxide 2944-66-3, Ferric oxalate 7447-41-8, Lithium chloride, reactions 7664-38-2, Phosphoric acid, reactions 7705-08-0, Ferric chloride, reactions 7720-78-7, Ferrous sulfate 7722-76-1, Ammonium dihydrogen phosphate 7758-94-3, Ferrous chloride 7783-28-0, Diammonium hydrogen phosphate 7790-69-4, Lithium nitrate 10028-22-5, Ferric sulfate 10361-65-6, Ammonium phosphate 10377-52-3, Lithium phosphate 10421-48-4, Ferric nitrate 13453-80-0, Lithium dihydrogen phosphate 14013-86-6, Ferrous nitrate **33943-39-4**, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of lithium iron phosphate as cathode active material for
lithium ion secondary battery)

L20 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:39052 HCAPLUS Full-text
DN 148:148439
TI Preparation and application of LiFePO4/Li3V2(PO4)3 composite cathode materials for lithium ion batteries
IN Wu, She-Huang; Yang, Mu-Rong; Ke, Wei-Hsin; Huang, Yuan-Lung; Yu, Nien-Chieh
PA Tatung Company, Taiwan
SO U.S. Pat. Appl. Publ., 11pp.
CODEN: USXXCO

DT Patent
LA English
FAN.CNT 1

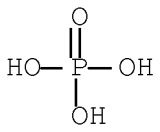
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20080008938	A1	20080110	US 2007-783299	20070409

PRAI TW 2006-95124642 A 20060706

AB A method of preparing LiFePO4/Li3V2(PO4)3 composite cathode materials and their applications as cathode materials for lithium ion batteries are disclosed. The preparation method includes the following steps: (A) providing a mixture of iron powder, lithium salt, vanadium salt, and a phosphate salt whereafter these compds. are dissolved into a mixed acid solution; (B) drying the solution in order to obtain precursor powders; and (C) heating the precursor powders at a temperature ranging between 400 and 1000° to form LiFe1-y'Vy'PO4/Li3V2-y"Fey"(PO4)3 composite powders. Alternatively, prepare the composite cathode by preparing olivine LiFe1-y'Vy'PO4 and monoclinic Li3V2-y'Fey"(PO4)3 powders as in previous procedures followed by mixing adequately. The low cost of iron powder thus facilitates to prepared composite cathode materials exhibiting higher elec. conductivity and superior cycling performance at high rates than those of olivine LiFe1-y'Vy'PO4 and monoclinic Li3V2-y"Fey"(PO4)3. The invention will help the development of the lithium ion batteries and related industries.

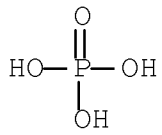
IT **33943-39-4**, DiLithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and application of LiFePO4/Li3V2(PO4)3 composite cathode
materials for lithium ion batteries)

RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)



●2 Li

IT **15365-14-7P**, Iron lithium phosphate felipo4
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and application of LiFePO4/Li3V2(PO4)3 composite cathode
materials for lithium ion batteries)
RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

INCL -429; -205; 252182100
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
IT 64-19-7, Acetic acid, reactions 77-92-9, Citric acid, reactions 79-09-4, Propionic acid, reactions 87-69-4, Tartaric acid, reactions 107-92-6, Butyric acid, reactions 144-62-7, Oxalic acid, reactions 546-89-4, Lithium acetate 1310-65-2, Lithium hydroxide (Li(OH)) 1314-34-7, Vanadium oxide (V2O3) 1314-56-3, Phosphorus oxide (P2O5), reactions 7439-89-6, Iron, reactions 7447-41-8, Lithium chloride, reactions 7550-35-8, Lithium bromide 7601-90-3, Perchloric acid, reactions 7647-01-0, Hydrochloric acid, reactions 7664-38-2, Phosphoric acid, reactions 7664-39-3, Hydrofluoric acid, reactions 7664-93-9, Sulfuric acid, reactions 7697-37-2, Nitric acid, reactions 7722-76-1, Ammonium dihydrogen phosphate 7789-24-4, Lithium fluoride, reactions 7790-69-4, Lithium nitrate 7790-92-3, Hypochlorous acid 7803-55-6, Ammonium vanadate 10361-65-6, Triammonium phosphate 10377-52-3, Lithium phosphate 12036-21-4, Vanadium oxide (VO2) 12057-24-8, Lithium oxide, reactions 13453-80-0, Lithium dihydrogen phosphate **33943-39-4**, DiLithium hydrogen phosphate 64580-71-8 1001050-87-8

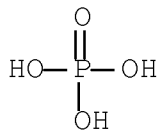
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and application of LiFePO4/Li3V2(PO4)3 composite cathode
materials for lithium ion batteries)
IT 15365-14-7P, Iron lithium phosphate felipo4 84159-18-2P, Lithium vanadium phosphateLi3V2(PO4)3
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and application of LiFePO4/Li3V2(PO4)3 composite cathode
materials for lithium ion batteries)

L20 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2007:850926 HCAPLUS Full-text
DN 147:280811
TI Method for preparing LiFePO4 particles with controllable morphology
IN Ni, Jiangfeng; Zhou, Henghui; Chen, Jitao; Zhang, Xinxiang
PA Pulead Technology Industry Co., Ltd., Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 12pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101007630	A	20070801	CN 2007-10000683	200701 16
PRAI CN 2007-10000683		20070116		

AB The title method comprises the steps of: (1) mixing one or more kinds of compds. or solns. containing lithium ions, iron ions, and phosphate ions, adding solvent, adding crystal growth inhibitor (0.5-50 weight% of the theoretic product), and transferring to a hermetic reaction kettle, (2) performing solvent-thermal reaction to obtain the primary product, and (3) cooling, washing, filtering, and drying. The product can be calcined at high temperature for higher crystallinity. The LiFePO4 is useful as cathodic substance of lithium ion batteries for elec. tools, elec. bicycles, and elec. automobiles. The LiFePO4 particles have the advantages of various kinds of morphol., uniform size distribution, high controllability of morphol. and size, and small particles size. The method can be used for synthesizing submicroscale and nanoscale products, and has the advantages of short reaction time and low energy consumption.
IT 15365-14-7P, Iron lithium phosphate, (LiFePO4)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

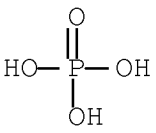
(method for preparing LiFePO4 particles with controllable morphol.)
RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

IT 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for preparing LiFePO4 particles with controllable morphol.)
RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)



●2 Li

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
IT 15365-14-7P, Iron lithium phosphate, (LiFePO4)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for preparing LiFePO4 particles with controllable

morphol.)
IT 546-89-4, Lithium acetate 1310-65-2, Lithium hydroxide 1332-37-2, Iron oxide, reactions 3094-87-9, Ferrous acetate 7664-38-2, Phosphoric acid, reactions 7720-78-7, Ferrous sulfate 7722-76-1, Ammonium dihydrogen phosphate 7758-94-3, Ferrous chloride 7783-28-0, Diammonium hydrogen phosphate 10045-86-0, Ferric phosphate 10124-31-9, Ammonium phosphate 10290-71-8, Iron carbonate 10377-52-3, Lithium phosphate 11113-65-8, Iron fluoride 11126-12-8, Iron sulfide 13453-80-0, Lithium dihydrogen phosphate 14013-86-6, Iron nitrate 14940-41-1, Ferrous phosphate 33943-39-4, Dilithium hydrogen phosphate 52767-99-4, Ammonium iron phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for preparing LiFePO4 particles with controllable morphol.)

L20 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:1015282 HCAPLUS Full-text
DN 145:474775
TI Method for manufacturing lithium ferrous phosphate as cathode material of lithium-ion batteries
IN Gu, Yijie; Huang, Xiaowen; Cui, Hongzhi
PA Shandong University of Science and Technology, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 5 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1837033	A	20060927	CN 2006-10043350	20060324
	CN 100413781	C	20080827		
PRAI	CN 2006-10043350		20060324		

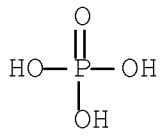
AB The title method comprises: (1) mixing lithium salts, ferrous salts and ammonium dihydrogen phosphate at a mol. ratio (lithium ion to ferrous ion to phosphate radical) of (0.8-1.2):(0.8-1.2):(0.8-1.2) to obtain mixture A, (2) adding the mixture A in solution B (aqueous solution containing dissolvable salts and organic substances) at a weight ratio of 1:(0.1-10), stirring, placing into a high-temperature furnace, heating without air or oxidative gas atmospheric at a rate of 1-30°/min, keeping the temperature of 50-200° for 0-100 h (the higher the temperature is, the shorter the time is), carrying out high-temperature treatment by elec. heating, and cooling naturally to obtain lithium ferrous phosphate (LixFeyMzPO4) powder, and (3)

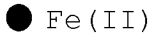
grinding the powder to a particle size of 1-50 μm to obtain the final product. In step 1, lithium salt is one of lithium carbonate, lithium hydroxide, dilithium hydrogen phosphate, lithium sulfate, lithium acetate, lithium nitrate and lithium oxalate, and ferrous salt is ferrous acetate or ferrous oxalate. In solution B, the dissolvable salt (M) is at least one of nitrate, acetate, sulfate, and chloride of aluminum, titanium, magnesium, zirconium, vanadium, manganese, nickel, cobalt, niobium, rhodium, barium, and chromium with a doping amount of M/lithium mol. ratio of ≤ 0.3, and the dissolvable organic substance is at least one of sucrose, glucose, and macromol. compound pyrolyzed into carbon substances with good elec. conductivity with a doping amount of carbon/final product weight ratio ≤ 10. The title cathode material has the advantages of uniform distribution, and improved charge capacity.

IT 15365-14-7P, Ferrous lithium phosphate
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(magnesium or zirconium doped; process for manufacturing ferrous lithium phosphate as cathode active material for lithium ion batteries)

RN 15365-14-7 HCAPLUS

CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)

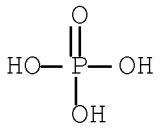


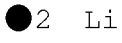


IT 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for manufacturing ferrous lithium phosphate as cathode active material for lithium ion batteries)

RN 33943-39-4 HCAPLUS

CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)





CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
IT 15365-14-7P, Ferrous lithium phosphate
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(magnesium or zirconium doped; process for manufacturing ferrous lithium phosphate as cathode active material for lithium ion batteries)
IT 50-99-7, Glucose, reactions 57-50-1, Sucrose, reactions 516-03-0, Ferrous oxalate 546-89-4, Lithium acetate 553-91-3, Lithium oxalate 554-13-2, Lithium carbonate 1310-65-2, Lithium hydroxide 3094-87-9, Ferrous acetate 7722-76-1, Ammonium dihydrogen phosphate 7790-69-4, Lithium nitrate 10377-48-7, Lithium sulfate 33943-39-4, Dilithium hydrogen phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for manufacturing ferrous lithium phosphate as cathode active material for lithium ion batteries)

L20 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:878134 HCAPLUS Full-text
DN 146:29497
TI Method for preparing spherical or quasi-spherical metal lithium phosphate
IN Ni, Jiangfeng; Zhou, Henghui; Chen, Jitao; Zhang, Xinxiang
PA Pulead Technology Industry Co., Ltd, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 10pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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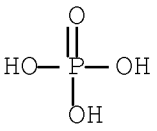
PI CN 1821063 A 20060823 CN 2006-10011378 200602 28
CN 100390052 C 20080528
PRAI CN 2006-10011378 20060228

AB The title method comprises: (1) pulverizing one or more compds. containing lithium ion, transition metal ions, and phosphate, (2) pyrolyzing under inert gas atmospheric, (3) adding molten alkali metal salts, wherein the mol. ratio of molten salts/transition metal ions is 0.1-10, and sintering, and (4) cooling, washing, filtering, drying, and pulverizing to obtain the final product with a particle size of 1-5 μm. The particle size of the final product can be controlled by reaction conditions. The method has the advantages of short sintering time requirement and low energy consumption. The obtained product has the advantages of low sp. surface area, good processing property, high tap d., high volumetric specific energy d., and good safety. The product can be widely used in batteries of elec. tools, elec. bicycles, and elec. cars.

IT 33943-39-4, Dilithium hydrogen phosphate
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(method for preparing spherical or quasi-spherical metal lithium phosphate)

RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)

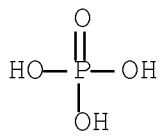


●2 Li

IT 13826-59-0P, Lithium manganese phosphate 15365-14-7P
, Ferrous lithium phosphate 153456-60-1P
554453-38-2P, Iron lithium manganese phosphate
915945-24-3P, Copper iron lithium zinc phosphate
915945-25-4P, Cobalt iron lithium manganese phosphate
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for preparing spherical or quasi-spherical metal lithium phosphate)

RN 13826-59-0 HCAPLUS

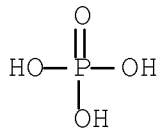
CN Phosphoric acid, lithium manganese(2+) salt (1:1:1) (9CI) (CA INDEX NAME)



● Li

● Mn(II)

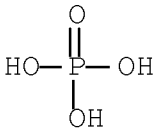
RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

RN 153456-60-1 HCAPLUS
CN Phosphoric acid, cobalt lithium nickel salt (9CI) (CA INDEX NAME)

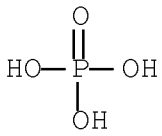


● x Co(x)

● x Li

● x Ni(x)

RN 554453-38-2 HCAPLUS
CN Phosphoric acid, iron lithium manganese(2+) salt (9CI) (CA INDEX NAME)



● x Fe(x)

● x Li

● x Mn(II)

RN 915945-24-3 HCAPLUS
CN Copper iron lithium zinc phosphate (CA INDEX NAME)

Component	Ratio	Component Registry Number

O4P	x	14265-44-2
Zn	x	7440-66-6
Cu	x	7440-50-8
Li	x	7439-93-2
Fe	x	7439-89-6

RN 915945-25-4 HCAPLUS
CN Cobalt iron lithium manganese phosphate (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	x	14265-44-2
Co	x	7440-48-4
Mn	x	7439-96-5
Li	x	7439-93-2
Fe	x	7439-89-6

CC 49-5 (Industrial Inorganic Chemicals)
IT 142-71-2, Copper acetate 516-03-0, Ferrous oxalate 546-89-4, Lithium acetate 554-13-2, Lithium carbonate 1309-37-1, Ferric oxide, processes 1310-65-2, Lithium hydroxide 1313-99-1, Nickel oxide, processes 1317-37-9, Ferrous sulfide 2180-18-9, Manganese acetate 3486-35-9, Zinc carbonate 7542-09-8, Cobalt carbonate 7664-38-2, Phosphoric acid, processes 7722-76-1, Ammonium dihydrogen phosphate 7758-94-3, Ferrous chloride 7783-28-0, Diammonium hydrogen phosphate 10045-86-0, Ferric phosphate 10124-31-9, Ammonium phosphate 10377-48-7, Lithium sulfate 10377-52-3, Lithium phosphate 13453-80-0, Lithium dihydrogen phosphate 14940-41-1, Ferrous phosphate 17375-37-0, Manganese carbonate 18130-42-2, Cobalt oxalate **33943-39-4**, Dilithium hydrogen phosphate 52767-99-4, Ammonium iron phosphate
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(method for preparing spherical or quasi-spherical metal lithium phosphate)
IT **13826-59-0P**, Lithium manganese phosphate **15365-14-7P**, Ferrous lithium phosphate **153456-60-1P** **554453-38-2P**, Iron lithium manganese phosphate **915945-24-3P**, Copper iron lithium zinc phosphate **915945-25-4P**, Cobalt iron lithium manganese phosphate
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for preparing spherical or quasi-spherical metal lithium phosphate)

L20 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2005:589401 HCAPLUS Full-text

DN 143:118019
TI Process for preparing electroactive insertion compounds and electrode materials obtained therefrom
IN Gauthier, Laurent; Gauthier, Michel; Lavoie, Donald; Michot, Christophe; Ravet, Nathalie
PA Universite De Montreal, Can.; Centre National de la Recherche Scientifique; Phostech Lithium Inc.
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

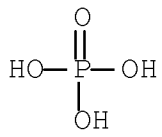
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005062404	A1	20050707	WO 2004-CA2182	20041222
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2550496	A1	20050707	CA 2004-2550496	20041222
	EP 1702373	A1	20060920	EP 2004-802357	20041222
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
	CN 1926701	A	20070307	CN 2004-80041561	20041222
	JP 2007515762	T	20070614	JP 2006-545870	20041222
	US 20060127767	A1	20060615	US 2005-536431	20051116

KR 2007019972 A 20070216 KR 2006-714689 200607 21

PRAI US 2003-531606P P 20031223
WO 2004-CA2182 W 20041222

AB The invention relates to a process for preparing an at least partially lithiated transition metal oxyanion-based lithium-ion reversible electrode material, which comprises providing a precursor of the lithium-ion reversible electrode material, heating the precursor, melting same at a temperature sufficient to produce a melt comprising an oxyanion containing liquid phase, cooling the melt under conditions to induce solidification thereof and obtain a solid electrode that is capable of reversible lithium ion deinsertion/insertion cycles for use in a lithium battery. The invention also relates to lithiated or partially lithiated oxyanion-based-lithium-ion reversible electrode materials obtained by the aforesaid process.

IT 13816-45-0, Triphylite
RL: DEV (Device component use); USES (Uses)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)
RN 13816-45-0 HCAPLUS
CN Triphylite (FeLi(PO4)) (7CI, 9CI) (CA INDEX NAME)

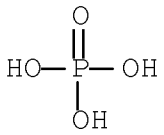


● Fe(II)

● Li

IT 554453-38-2P, Iron lithium manganese phosphate
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)

RN 554453-38-2 HCAPLUS
CN Phosphoric acid, iron lithium manganese(2+) salt (9CI) (CA INDEX NAME)

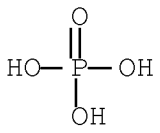


●x Fe(x)

●x Li

●x Mn(II)

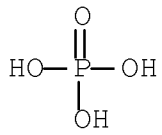
IT 33943-39-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)
RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)

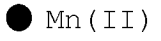


●2 Li

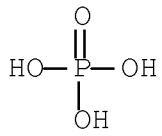
IT 13826-59-0P, Lithium manganese phosphate
15365-14-7DP, chromium- and molybdenum-doped
19414-36-9P, Iron lithium manganese phosphate
((Fe,Mn)Li(PO4)) 643752-34-5P, Iron lithium magnesium

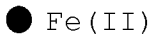
phosphate (Fe0.95LiMg0.05(PO4))
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)
RN 13826-59-0 HCAPLUS
CN Phosphoric acid, lithium manganese(2+) salt (1:1:1) (9CI) (CA INDEX NAME)





RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)





RN 19414-36-9 HCAPLUS

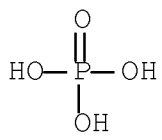
CN Iron lithium manganese phosphate ((Fe,Mn)Li(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	1	14265-44-2
Mn	0 - 1	7439-96-5
Li	1	7439-93-2
Fe	0 - 1	7439-89-6

RN 643752-34-5 HCAPLUS
CN Iron lithium magnesium phosphate (Fe0.95LiMg0.05(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	1	14265-44-2
Mg	0.05	7439-95-4
Li	1	7439-93-2
Fe	0.95	7439-89-6

IT 15365-14-7
RL: TEM (Technical or engineered material use); USES (Uses)
(process for preparing electroactive insertion compds. and electrode materials obtained therefrom)
RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

IC ICM H01M004-04
ICS C25B011-04; C07F001-02; H01M004-48; C01B025-26
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
IT 13816-45-0, Triphylite
RL: DEV (Device component use); USES (Uses)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)
IT 554453-38-2P, Iron lithium manganese phosphate
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)
IT 554-13-2, Lithium carbonate 1308-38-9, Chromium trioxide (Cr2O3), reactions 1309-37-1, Ferric oxide, reactions 1310-65-2, Lithium hydroxide 1313-13-9, Manganese dioxide, reactions 1313-27-5, Molybdenum trioxide, reactions 1314-56-3, Phosphorus pentoxide, reactions 1317-61-9, Iron oxide (Fe3O4), reactions 1345-25-1, Ferrous oxide, reactions 7439-89-6, Iron, reactions 7447-41-8, Lithium chloride, reactions 7722-76-1, Ammonium dihydrogen phosphate 7783-28-0, Ammonium hydrogen phosphate 7789-24-4, Lithium fluoride, reactions 10045-86-0, Ferric phosphate 10377-52-3, Lithium phosphate 13453-80-0, Lithium dihydrogen phosphate 14940-41-1, Ferrous phosphate 33943-39-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)
IT 13826-59-0P, Lithium manganese phosphate
15365-14-7DP, chromium- and molybdenum-doped
19414-36-9P, Iron lithium manganese phosphate ((Fe,Mn)Li(PO4)) 643752-34-5P, Iron lithium magnesium phosphate (Fe0.95LiMg0.05(PO4))
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)
IT 15365-14-7
RL: TEM (Technical or engineered material use); USES (Uses)
(process for preparing electroactive insertion compds. and electrode
materials obtained therefrom)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

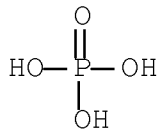
L20 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2004:492320 HCAPLUS Full-text
DN 141:26150
TI Preparation of a cathode material for secondary batteries
IN Franger, Sylvain; Martinet, Sebastien; Le Cras, Frederic; Bourbon, Carole
PA Commissariat A L'energie Atomique, Fr.
SO Fr. Demande, 33 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2848549	A1	20040618	FR 2002-15915	20021216
	FR 2848549	B1	20050121		
	WO 2004056702	A2	20040708	WO 2003-FR50172	20031215
	WO 2004056702	A3	20040819		
	W: CN, JP, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	EP 1572585	A2	20050914	EP 2003-809985	20031215
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
	CN 1726167	A	20060125	CN 2003-80106132	20031215
	CN 100376474	C	20080326		
	JP 2006511421	T	20060406	JP 2004-561577	20031215
	US 20060204848	A1	20060914	US 2006-537947	20060216
PRAI	FR 2002-15915	A	20021216		
	WO 2003-FR50172	W	20031215		

AB A cathode material for secondary batteries is prepared having the general formula AMXO4 with A being an alkali metal, especially Li or Na, M being a transition metal, especially trivalent Mn, Fe, Ni, or

Co, and X being Si, S, Al, Ge, As, Mo, preferably P. The material is prepared by reacting a complex of M bound to an organic ligand, such as nitrilotriacetic acid or EGTA, with a metal salt, especially Li2HPO4. The anode of the secondary battery is made of Li4Ti5O12.

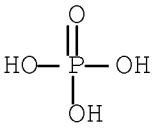
IT 15365-14-7P, Iron lithium phosphate felipo4
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(cathode material; preparation of cathode material for secondary batteries)
RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

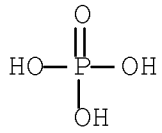
IT 33943-39-4, Lithium phosphate (Li2HPO4)
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(preparation of cathode material for secondary batteries)
RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)

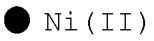


●2 Li

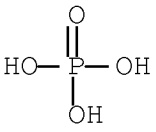
IC ICM C01D001-02
ICS H01M004-48; H01M004-24; H01M010-24; C01D015-02; G02F001-15
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
IT 15365-14-7P, Iron lithium phosphate felipo4
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(cathode material; preparation of cathode material for secondary batteries)
IT 67-42-5, EGTA 139-13-9, Glycine, N,N-bis(carboxymethyl)- 10028-22-5, Iron sulfate fe2(SO4)3 33943-39-4, Lithium phosphate (Li2HPO4)
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(preparation of cathode material for secondary batteries)

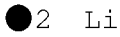
L20 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1997:295088 HCAPLUS Full-text
DN 127:43969
OREF 127:8214h,8215a
TI Interactions in the M2O-P2O5-NiO system (M = Li, Na, K)
AU Nagornyi, P. G.; Petrenko, O. V.; Slobodyanik, N. S.
CS Nats. Univ. im. Tarasa Shevchenka, Kiev, Ukraine
SO Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1996), 62(11-12), 14-18
CODEN: UKZHAU; ISSN: 0041-6045
PB Institut Obshchei i Neorganicheskoi Khimii NAN Ukrainy
DT Journal
LA Russian
AB The reactions of NiO with melts of MH2PO4 or M2HPO4 (M = Li, Na, K) were studied by the isothermal saturation and slow cooling methods at 1000-750°. The composition of the products was determined and the products were characterized by x-ray phase anal., IR spectra and derivatog. anal.
IT 13977-83-8P, Lithium nickel phosphate (LiNiPO4)
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation by reaction of nickel oxide with alkali metal phosphate
melts)
RN 13977-83-8 HCAPLUS
CN Phosphoric acid, lithium nickel(2+) salt (1:1:1) (8CI, 9CI) (CA INDEX NAME)





IT 33943-39-4, Dilithium phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of nickel oxide with alkali metal phosphate melts)
RN 33943-39-4 HCAPLUS
CN Phosphoric acid, dilithium salt (8CI, 9CI) (CA INDEX NAME)





CC 78-9 (Inorganic Chemicals and Reactions)
IT 13977-83-8P, Lithium nickel phosphate (LiNiPO4)
14448-18-1P, Nickel phosphate (Ni2P2O7) 40437-73-8P, Nickel sodium phosphate (NiNa(PO3)3) 63090-58-4P, Nickel ultraphosphate (NiP4O11) 68877-75-8P, Nickel potassium metaphosphate oxide (Ni4K2(PO3)4O3) 157098-42-5P, Nickel sodium diphosphate (NiNaP2O7)
190662-02-3P, Nickel sodium metaphosphate oxide (Ni2Na3(PO3)3O2)
190662-04-5P, Nickel sodium metaphosphate oxide (Ni3Na4(PO3)4O3)
190662-05-6P, Nickel potassium metaphosphate oxide (Ni3K6(PO3)8O2)
190662-07-8P, Nickel potassium metaphosphate oxide (Ni4K4(PO3)6O3)
190662-10-3P, Lithium nickel metaphosphate oxide (Li4Ni5(PO3)10O2)
190662-12-5P, Lithium nickel metaphosphate oxide (Li2Ni3(PO3)6O)
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation by reaction of nickel oxide with alkali metal

phosphate
melts)
IT 1313-99-1, Nickel oxide (NiO), reactions 7558-79-4, Disodium phosphate 7558-80-7, Sodium dihydrogen phosphate 7778-77-0, Potassium dihydrogen phosphate 13453-80-0, Lithium dihydrogen phosphate 25681-80-5, Dipotassium, reactions 33943-39-4, Dilithium phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of nickel oxide with alkali metal phosphate melts)

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YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

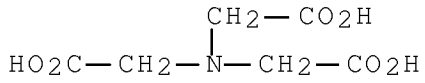
L30 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:843351 HCAPLUS Full-text
DN 149:227142
TI Method for synthesizing LixMy(PO4)z compounds under electron beam irradiation
IN Zhao, Bing; Jiao, Zheng; Wu, Minghong; Yan, Jing; Zhong, Mingyang; He, Yaqin; Jiang, Yong; Sun, Yufei; Wang, Song
PA Shanghai University, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 6pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101214942	A	20080709	CN 2008-10032410	20080108
PRAI CN 2008-10032410		20080108		

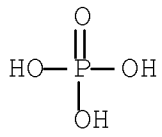
AB The title compds. have a formula of LixMy(PO4)z, wherein M is one or two of Fe, Co, Ni, Mn, V, Cu, Ti, Cr, Mg and Zn. The compds. are synthesized by the following steps of: (1) weighing soluble M salt and phosphorus-containing compound, dissolving in deionized water, adding proper complexing agent, and then adding soluble Li salt under stirring, (2) adding suitable dilute base solution to adjust pH to 6.5-7, and ultrasonic-vibrating for 5-10 min, (3) electron beam-irradiating at 20-40 Mrad in an electron accelerator (power 2.5 MeV and current 40 mA), (4) washing, centrifugating, and repeating many times to remove unreacted ion and complexing agent, (5) vacuum-

drying, and (6) thermally treating in a tubular furnace at 400-600° for 5-10 h, and naturally cooling to obtain the final product with particle size of 50-100 nm. The concentration ratio of complexing agent to M ion is (0.1-1):1. The M salt is M nitrate or sulfate. The P-containing compound is phosphoric acid, diammonium hydrogen phosphate or ammonium dihydrogen phosphate. The Li salt is lithium hydroxide, lithium chloride, lithium sulfate or lithium carbonate. The complexing agent is disodium ethylenediaminetetraacetate, citric acid or aminotriacetic acid. The product can be used to prepare cathode materials of lithium ion batteries.

IT 139-13-9
RL: NUU (Other use, unclassified); USES (Uses)
(method for synthesizing LixMy(PO4)z compds. under electron beam irradiation)
RN 139-13-9 HCAPLUS
CN Glycine, N,N-bis(carboxymethyl)- (CA INDEX NAME)



IT 15365-14-7P, Iron lithium phosphate (FeLiPO4)
478819-84-0P, Iron lithium magnesium phosphate (FeLi0.99Mg0.01(PO4))
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for synthesizing LixMy(PO4)z compds. under electron beam irradiation)
RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

RN 478819-84-0 HCAPLUS
CN Iron lithium magnesium phosphate (FeLi0.99Mg0.01(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O4P	1	14265-44-2
Mg	0.01	7439-95-4
Li	0.99	7439-93-2
Fe	1	7439-89-6

CC 49-3 (Industrial Inorganic Chemicals)
Section cross-reference(s): 52
IT 64-17-5, Ethanol, uses 77-92-9, Citric acid, uses **139-13-9** 139-33-3, Disodium EDTA 1310-58-3, Potassium hydroxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(method for synthesizing LixMy(PO4)z compds. under electron beam irradiation)
IT **15365-14-7P**, Iron lithium phosphate (FeLiPO4) 84159-18-2P, Lithium vanadium phosphate (Li3V2(PO4)3) **478819-84-0P**, Iron lithium magnesium phosphate (FeLi0.99Mg0.01(PO4))
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for synthesizing LixMy(PO4)z compds. under electron beam irradiation)

L30 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2005:368529 HCAPLUS Full-text
DN 142:433067
TI Manufacture of powdered anode active mass, the powdered electrode active mass, the electrode, and lithium battery

IN Saito, Mitsumasa; Toge, Yoshiyuki
PA Sumitomo Osaka Cement Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

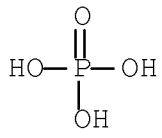
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005116393	A	20050428	JP 2003-350632	20031009

PRAI JP 2003-350632 20031009

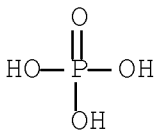
AB The powdered anode active mass is LixMyM'zPO4 (M = Fe, Co, Mn, Ni, Cr, and/or Cu; M' = Mg, Ca, Ba, Ti, Zn, b, Al, Ga, In, Si, Ge, Sc, Y, and/or rare earth metal), and is prepared by spraying a solution, dispersion, or suspension containing LiOH, sources of M and M', H3PO4 and/or phosphate salt, reaction inhibitor for LiOH and H3PO4 and/or phosphate, and reaction inhibitor for M and M' sources and H3PO4 and/or phosphate in a high temperature atmospheric to obtain a precursor, and firing the precursor.

IT 13824-63-0P, Cobalt lithium phosphate (CoLiPO4)
13826-59-0P, Lithium manganese phosphate (LiMnPO4)
15365-14-7P, Iron lithium phosphate (FeLiPO4)
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(compns. and manufacture of powdered anode active mass for secondary
lithium batteries)

RN 13824-63-0 HCAPLUS
CN Phosphoric acid, cobalt(2+) lithium salt (8CI, 9CI) (CA INDEX NAME)



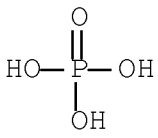
RN 13826-59-0 HCAPLUS
CN Phosphoric acid, lithium manganese(2+) salt (1:1:1) (9CI) (CA INDEX NAME)



● Li

● Mn(II)

RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)

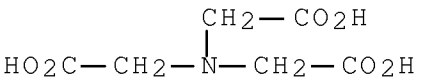


● Fe(II)

● Li

IT 139-13-9, Nitrilotriacetic acid
RL: NUU (Other use, unclassified); USES (Uses)
(in manufacture of powdered anode active mass by high temperature mist spraying
and firing for secondary lithium batteries)

RN 139-13-9 HCAPLUS
CN Glycine, N,N-bis(carboxymethyl)- (CA INDEX NAME)



IC ICM H01M004-58
ICS C01B025-45; H01M004-02; H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 13824-63-0P, Cobalt lithium phosphate (CoLiPO4)
13826-59-0P, Lithium manganese phosphate (LiMnPO4)
15365-14-7P, Iron lithium phosphate (FeLiPO4)
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(compns. and manufacture of powdered anode active mass for secondary
lithium batteries)
IT 77-92-9, Citric acid, uses 87-69-4, Tartaric acid, uses
139-13-9, Nitrilotriacetic acid
RL: NUU (Other use, unclassified); USES (Uses)
(in manufacture of powdered anode active mass by high temperature mist spraying
and firing for secondary lithium batteries)

L30 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2003:719230 HCAPLUS Full-text
DN 139:241693
TI Selective herbicide compositions comprising transition metal chelates
IN Sedun, Frederick S.; Taylor, Kim F.; Wilson, Cameron D.; Parker, Diana L.; Almond, David S.
PA W. Neudorff G.m.b.H. K.-G., Germany
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003073856	A1	20030912	WO 2003-EP2069	200302

28

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2477493 A1 20030912 CA 2003-2477493 200302 28

AU 2003211724 A1 20030916 AU 2003-211724 200302 28

EP 1489909 A1 20041229 EP 2003-743354 200302 28

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

PRAI US 2002-361217P P 20020301

WO 2003-EP2069 W 20030228

AB An environmentally safe selective herbicide is provided that includes at least one metal component and at least one chelating agent. The metal component can have a variety of forms, but is preferably in the form of a metal salt, a metal chelate, or combinations thereof. The chelating agent can also have a variety of forms, but is preferably in the form of a metal chelate, a salt, an acid, or combinations thereof.

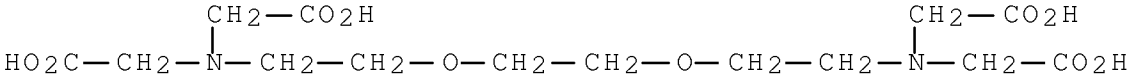
IT 67-42-5 139-13-9, Nitrilotriacetic acid

RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)

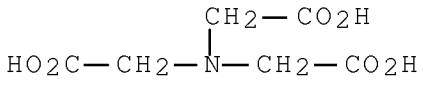
(chelating agent in selective herbicide compns. comprising transition metal chelates)

RN 67-42-5 HCAPLUS

CN 6,9-Dioxa-3,12-diazatetradecanedioic acid, 3,12-bis(carboxymethyl)- (CA INDEX NAME)



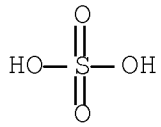
RN 139-13-9 HCAPLUS
CN Glycine, N,N-bis(carboxymethyl)- (CA INDEX NAME)



IT 596113-31-4
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(selective herbicide compns. comprising)
RN 596113-31-4 HCAPLUS
CN Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, tetrasodium salt, mixt. with iron(2+) sulfate (1:1) (9CI) (CA INDEX NAME)

CM 1

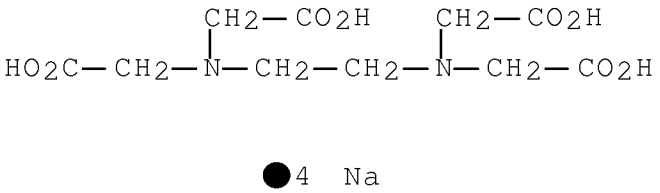
CRN 7720-78-7
CMF Fe . H2 O4 S



● Fe(II)

CM 2

CRN 64-02-8
CMF C10 H16 N2 O8 . 4 Na



IC ICM A01N059-16
ICS A01N059-20; A01N037-44; A01N037-32; A01N043-58
CC 5-3 (Agrochemical Bioregulators)
IT 56-40-6, Glycine, biological studies 56-41-7, L-Alanine, biological studies 56-45-1, L-Serine, biological studies 56-84-8, Aspartic acid, biological studies 56-85-9, L-Glutamine, biological studies 56-86-0, Glutamic acid, biological studies 56-87-1, L-Lysine, biological studies 60-00-4, Ethylenediaminetetraacetic acid, biological studies 60-18-4, L-Tyrosine, biological studies 61-90-5, L-Leucine, biological studies 63-68-3, L-Methionine, biological studies 64-02-8, Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, tetrasodium salt 64-19-7, Acetic acid, biological studies 67-42-5 67-43-6, Diethylenetriaminepentaacetic acid 69-72-7, Salicylic acid, biological studies 70-47-3, L-Asparagine, biological studies 71-00-1, L-Histidine, biological studies 72-18-4, L-Valine, biological studies 72-19-5, L-Threonine, biological studies 73-32-5, L-Isoleucine, biological studies 74-79-3, L-Arginine, biological studies 77-92-9, Citric acid, biological studies 80-69-3, Tartronic acid 87-69-4, Tartaric acid, biological studies 93-62-9 97-65-4, Itaconic acid, biological studies 102-71-6, Triethanolamine, biological studies 107-15-3, Ethylenediamine, biological studies 110-15-6, Succinic acid, biological studies 110-44-1, Sorbic acid 110-94-1, Glutaric acid 110-99-6, Diglycolic acid 111-42-2, Diethanolamine, biological studies 112-24-3 139-13-9, Nitrilotriacetic acid 141-43-5, Monoethanolamine, biological studies 142-73-4, Iminodiacetic acid 147-85-3, L-Proline, biological studies 149-91-7, Gallic acid, biological studies 150-25-4, Diethanol glycine 482-54-2 498-23-7, Citraconic acid 499-12-7, Aconitic acid 499-83-2, Dipicolinic acid 528-94-9, Ammonium salicylate 541-50-4, Diacetic acid, biological studies 688-57-3D, Ethylenediamine triacetic acid, alkoyl derivs. 817-11-8, Nitrilotripropionic acid 1170-02-1 2809-21-4 3148-72-9 4408-64-4, Methyliminodiacetic acid 4408-81-5, 1,2-Diaminopropanetetraacetic acid 6419-19-8, Aminotri (methylenephosphonic acid) 7408-20-0, Iminodisuccinic acid 13073-35-3, Ethionine 13288-40-9 13598-36-2, Phosphonic

acid 20846-91-7 23351-51-1, Glucoheptonic acid 29578-05-0, Methyl glycine diacetic acid 32013-58-4 33872-70-7, Hydroxyethylenediaminetriacetic acid 40623-42-5 58976-65-1 87339-38-6, Hydroxyiminodiacetic acid 89198-07-2 133677-59-5 148124-42-9 167613-87-8
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(chelating agent in selective herbicide compns. comprising transition metal chelates)

IT 7439-89-6D, Iron, chelates 7440-02-0D, Nickel, chelates 7440-50-8D, Copper, chelates 7440-66-6D, Zinc, chelates 15009-37-7 17084-02-5 17099-81-9 51395-10-9, Copper EDTA 55448-21-0, ZnEDTA 167256-48-6 167256-48-6D, mixture with beet molasses 187165-07-7 596113-16-5 596113-17-6 596113-18-7 596113-19-8 596113-20-1 596113-21-2 596113-22-3 596113-23-4 596113-24-5 596113-25-6 596113-26-7 596113-27-8 596113-28-9 596113-29-0 596113-30-3 596113-31-4 596113-32-5 596113-33-6 596113-34-7 596113-35-8 596113-36-9 596113-37-0 596113-38-1 596113-39-2 596113-40-5 596113-42-7 596113-43-8 596113-44-9 596113-45-0
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(selective herbicide compns. comprising)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

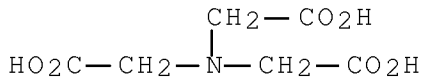
L30 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2003:437426 HCAPLUS Full-text
DN 139:278928
TI Comparison between different LiFePO4 synthesis routes and their influence on its physico-chemical properties
AU Franger, Sylvain; Le Cras, Frederic; Bourbon, Carole; Rouault, Helene
CS DRT/DTEN/SCSE/LSEM, Commissariat a l'Energie Atomique, Grenoble, 38054, Fr.
SO Journal of Power Sources (2003), 119-121, 252-257
CODEN: JPSODZ; ISSN: 0378-7753
PB Elsevier Science B.V.
DT Journal
LA English
AB LiFePO4 powders were synthesized using solid state reactions at high temps., co-precipitation in aqueous medium, hydrothermal synthesis or mechanochem. activation. The samples were characterized by XRD, chemical titration and their electrochem. performance were studied for cycling behavior. It is advantageous to introduce an electronic conductor precursor (typically a sucrose) during or after the

synthesis to overcome the poor charge transfer associated with LiFePO4.

IT **139-13-9D**, Nitrilotriacetic acid, iron complexes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(in synthesis of LiFePO4 for cathodes of lithium batteries)

RN 139-13-9 HCAPLUS

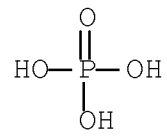
CN Glycine, N,N-bis(carboxymethyl)- (CA INDEX NAME)

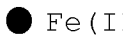


IT **15365-14-7P**, Iron lithium phosphate (FeLiPO4)
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(influence of synthesis route on properties of LiFePO4 cathode material for lithium batteries)

RN 15365-14-7 HCAPLUS

CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)





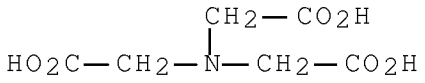
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 72

IT **139-13-9D**, Nitrilotriacetic acid, iron complexes
7439-89-6D, Iron, nitrilotriacetic acid complexes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical

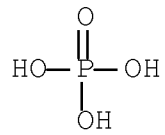
process); PROC (Process)
(in synthesis of LiFePO4 for cathodes of lithium batteries)
IT 15365-14-7P, Iron lithium phosphate (FeLiPO4)
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(influence of synthesis route on properties of LiFePO4 cathode material for lithium batteries)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1998:127054 HCAPLUS Full-text
DN 128:148754
OREF 128:29109a,29112a
TI Synthesis and Crystal Structure of Maricite and Sodium Iron(III) Hydroxyphosphate
AU Bridson, John. N.; Quinlan, Sean; Tremaine, Peter R.
CS Department of Chemistry, Memorial University of Newfoundland, St. John's, NF, A1B 3X7, Can.
SO Chemistry of Materials (1998), 10(3), 763-768
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB Maricite (NaFePO4) and sodium iron hydroxyphosphate (SIHP) are recently discovered iron(II) and iron(III) compds. that play a major role in phosphate hideout and corrosion in high-pressure boilers. This paper reports a novel method for synthesizing maricite by thermally decomposing the complex of aqueous iron(III) nitrilotriacetic acid at 200° and methods for the hydrothermal synthesis of SIHP from Fe3O4 or FePO4. The crystal structure of maricite is identical to the impure natural mineral. The x-ray diffraction pattern of SIHP is consistent with an orthorhombic unit cell containing 8 units Na3Fe(PO4)2·(Na2(1-x)H2xO), with x = 0.226 ± 0.025. This is similar, but not identical, to Na4Fe(OH)(PO4)2·1/3NaOH proposed by Ziemniak and Opalka. The main structural feature is a chain of iron(III) ions linked by bridging oxygens and phosphate bridges. The iron phosphate chains are held together by sodium ions in the ratio 3Na/Fe/2(PO4). Charge balance with the O2- bridge between each iron ion is maintained by Na+ and H+ ions located in a relatively open cage in the phosphate lattice. The structure is significant in that it explains the variable stoichiometry observed in powder diffraction patterns, and it identifies the stoichiometry of H and O, which cannot be determined from solubility studies.
IT 139-13-9, Nitrilotriacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)

(for preparation of sodium iron phosphate (FeNaPO4))
RN 139-13-9 HCAPLUS
CN Glycine, N,N-bis(carboxymethyl)- (CA INDEX NAME)



IT **53602-70-3P**, Iron sodium phosphate (FeNaPO4)
202334-18-7P, Iron sodium hydroxide oxide phosphate (FeNa4.55(OH)0.45O0.55(PO4)2)
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure)
RN 53602-70-3 HCAPLUS
CN Phosphoric acid, iron(2+) sodium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Na

RN 202334-18-7 HCAPLUS
CN Iron sodium hydroxide oxide phosphate (FeNa4.55(OH)0.45O0.55(PO4)2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	0.55	17778-80-2
HO	0.45	14280-30-9
O4P	2	14265-44-2

Na | 4.55 | 7440-23-5
Fe | 1 | 7439-89-6

CC 78-6 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 61, 75
IT 139-13-9, Nitrilotriacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(for preparation of sodium iron phosphate (FeNaPO4))
IT 53602-70-3P, Iron sodium phosphate (FeNaPO4)
202334-18-7P, Iron sodium hydroxide oxide phosphate (FeNa4.55(OH)0.45O0.55(PO4)2)
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure)
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l35 1-9 bib abs hitstr hitind
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L35 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2008:71588 HCAPLUS Full-text
DN 148:218494
TI High-safety lithium power battery and its assembly method
IN Liu, Lijun; Zhang, Baowen; Liu, Weiwei; Xu, Yan; Han, Lei; Zhou, Huansheng
PA Beijing China Powerel Battery Co., Ltd., Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 16pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

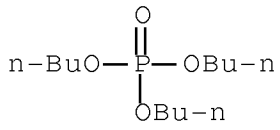
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101106185	A	20080116	CN 2007-10146016	200709 04
PRAI CN 2007-10146016		20070904		

AB The battery has several unit cells, a shell storing the unit cells and elec. connecting the unit cells, and a flame retardant or heat-transfer medium filled in the shell. The assembly method is carried out by: (1) providing unit cells with required number, (2) placing

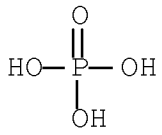
the unit cells in a shell, (3) elec. connecting the unit cells, (4) filling the flame retardant or heat-transfer medium into the shell, and (5) elec. connecting the unit cells to the shell, and sealing. The obtained battery has high safety.

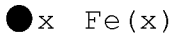
IT 126-73-8, Tributyl phosphate, uses 411234-54-3, Iron Lithium phosphate
RL: TEM (Technical or engineered material use); USES (Uses)
(structure and assembly method high-safety secondary lithium batteries)

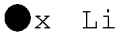
RN 126-73-8 HCAPLUS
CN Phosphoric acid tributyl ester (CA INDEX NAME)



RN 411234-54-3 HCAPLUS
CN Phosphoric acid, iron lithium salt (9CI) (CA INDEX NAME)



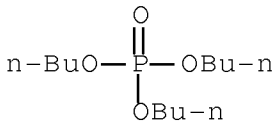




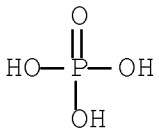
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 108-78-1, Melamine, uses 115-86-6, Triphenyl phosphate 126-73-8, Tributyl phosphate, uses 383-63-1, Ethyl trifluoroacetate 1309-42-8, Magnesium hydroxide 7782-42-5, Graphite, uses 9003-53-6D, Polystyrene, Brominated 21645-51-2, Aluminum hydroxide, uses 39457-42-6, Lithium manganese oxide 411234-54-3, Iron Lithium phosphate

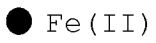
RL: TEM (Technical or engineered material use); USES (Uses)
(structure and assembly method high-safety secondary lithium batteries)

L35 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2007:1329553 HCAPLUS Full-text
DN 149:83426
TI Synthesis and electrochemical properties of LiFePO4/C cathode material prepared by using tri-n-butyl phosphate as a multi-function agent
AU Xu, Liang; Xu, Zhi-hui; Lai, Qiong-yu; Chen, Lian-mei; Ji, Xiao-yang
CS College of Chemistry, Sichuan University, Chengdu, 610064, Peop. Rep. China
SO Gongneng Cailiao (2007), 38(8), 1316-1319
CODEN: GOCAEA; ISSN: 1001-9731
PB Gongneng Cailiao Bianjibu
DT Journal
LA Chinese
AB LiFePO4/C cathode material had been synthesized by using tri-Bu phosphate (TBP) as a multi-function agent and polyethylene glycol 4000 (PEG-4000) as a surfactant and carbon source. The product structure, surface morphol. and chemical composition were detected by means of X-ray diffraction (XRD), scanning electron microscope (SEM) and X-ray photoelectron spectroscope (XPS). The results indicated that the sample prepared at 650 °C for 15 h was well crystallized with small and homogeneous global particles. In the voltage range of 2.5-4.3 V (vs Li), cyclic voltammetry tests showed there was a pair of sharp redox peaks with almost equal areas, indicating an excellent reversibility of the material. Electrochem. tests exhibited that the first discharge capacity was 158 mAh/g at the c.d. of 0.1 mA/ cm2. After 100th cycle, the specific discharge capacity was 153 mAh/g with only the loss of 3.3%. Even at the high c.d. of 4.0 mA/cm2, it still showed the discharge capacity close to 100 mAh/g.
IT 126-73-8, Tri-n-butyl phosphate, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(synthesis and electrochem. properties of LiFePO4/C cathode material prepared by using tri-Bu phosphate as multi-function agent)
RN 126-73-8 HCAPLUS
CN Phosphoric acid tributyl ester (CA INDEX NAME)



IT 15365-14-7
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(synthesis and electrochem. properties of LiFePO4/C cathode material prepared by using tri-Bu phosphate as multi-function agent)
RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)





CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 126-73-8, Tri-n-butyl phosphate, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(synthesis and electrochem. properties of LiFePO4/C cathode material prepared by using tri-Bu phosphate as multi-function agent)
IT 7440-44-0, Carbon, uses 15365-14-7 25322-68-3
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(synthesis and electrochem. properties of LiFePO4/C cathode material prepared by using tri-Bu phosphate as multi-function agent)

L35 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2007:1089561 HCAPLUS Full-text
DN 147:409729
TI Stabilized nonaqueous electrolytes for rechargeable batteries
IN Xu, Wu; Deng, Zhongyi
PA Ferro Corporation, USA
SO PCT Int. Appl., 22pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2007109435	A2	20070927	WO 2007-US63639	20070309
	WO 2007109435	A3	20080710		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
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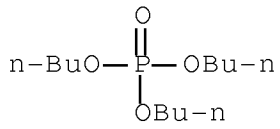
	US 20070224515	A1	20070927	US 2006-387142	20060322
	EP 1997183	A2	20081203	EP 2007-758213	20070309
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS				
	KR 2008105087	A	20081203	KR 2008-722785	20080918
PRAI	US 2006-387142	A	20060322		
	WO 2007-US63639	W	20070309		

OS MARPAT 147:409729

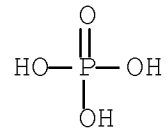
AB The invention relates to the use of aromatic phosphite compds. as stabilizers for nonaq. electrolytic solns. containing halogenated salts such as LiPF6 and LiBF4. The electrolyte containing such a phosphite exhibits excellent shelf life storage at ambient and high temps. The electrolytic solution is suitable for use in electrochem. cells such as lithium (ion) rechargeable batteries and supercapacitors.

IT 126-73-8, Tributyl phosphate, uses 15365-14-7, Iron lithium phosphate felipo4
RL: TEM (Technical or engineered material use); USES (Uses)
(stabilized nonaq. electrolytes for rechargeable batteries)

RN 126-73-8 HCAPLUS
CN Phosphoric acid tributyl ester (CA INDEX NAME)



RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 76

IT 57-57-8, β-Propiolactone 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 78-40-0, Triethyl phosphate 79-20-9, Methyl

acetate 96-47-9, 2-Methyltetrahydrofuran 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-54-4, Ethyl butyrate 105-58-8, Diethyl carbonate 105-66-8, Propyl butyrate 106-36-5, Propyl propionate 107-31-3, Methyl formate 108-29-2, 4-Methyl-γ-Butyrolactone 108-32-7, Propylene carbonate 109-21-7, Butyl butyrate 109-60-4, Propyl acetate 109-94-4, Ethyl formate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 110-74-7, Propyl formate 112-48-1, 1,2-Dibutoxyethane 115-86-6, Triphenyl phosphate 115-96-8, Tris(2-chloroethyl)phosphate 123-86-4, Butyl acetate 123-91-1, 1,4-Dioxane, uses 126-73-8, Tributyl phosphate, uses 141-78-6, Ethyl acetate, uses 358-63-4, Tris(2,2,2)trifluoroethyl)phosphate 512-56-1, Trimethyl phosphate 513-02-0, Triisopropyl phosphate 513-08-6, Tripropyl phosphate 542-28-9, δ-Valerolactone 542-52-9, Dibutyl carbonate 554-12-1, Methyl propionate 590-01-2, Butyl propionate 592-84-7, Butyl formate 616-38-6, Dimethyl carbonate 623-42-7, Methyl butyrate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 629-14-1, 1,2-Diethoxyethane 646-06-0, 1,3-Dioxolane 1301-96-8, Silver oxide (AgO) 1307-96-6, Cobalt oxide (CoO), uses 1309-60-0, Lead oxide (PbO2) 1309-64-4, Antimony oxide (Sb2O3), uses 1310-53-8, Germanium oxide (GeO2), uses 1312-43-2, Indium oxide (In2O3) 1313-99-1, Nickel oxide (NiO), uses 1314-13-2, Zinc oxide (ZnO), uses 1314-27-8, Lead oxide (Pb2O3) 1314-41-6, Lead oxide (Pb3O4) 1314-60-9, Antimony oxide (Sb2O5) 1317-36-8, Lead oxide (PbO), uses 1330-78-5, Tritolyl phosphate 1332-81-6, Antimony oxide (Sb2O4) 1345-25-1, Iron oxide (FeO), uses 1679-47-6, 2-Methyl-γ-Butyrolactone 1679-49-8, 3-Methyl-γ-Butyrolactone 2528-39-4, Trihexyl phosphate 4437-85-8, Butylene carbonate 7439-93-2, Lithium, uses 7440-44-0, Carbon, uses 7791-03-9, Lithium perchlorate 12002-97-0, Silver oxide (Ag2O3) 12022-46-7, Iron lithium oxide (FeLiO2) 12030-22-7, Indium oxide (In2O) 12031-65-1, Lithium nickel oxide (LiNiO2) 12031-95-7, Lithium titanium oxide (Li4Ti5O12) 12057-17-9, Lithium manganese oxide (LiMn2O4) 12057-30-6 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide (CoLiO2) 12332-29-5, Iron lithium nitride (FeLi3N2) 12338-02-2 12798-95-7 13843-81-7, Lithium dichromate li2cr2o7 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 14307-35-8, Lithium chromate li2cro4 15365-14-7, Iron lithium phosphate felipo4 18282-10-5, Tin oxide (SnO2) 20619-16-3, Germanium oxide (GeO) 20667-12-3, Silver oxide (Ag2O) 21324-40-3, Lithium hexafluorophosphate 21651-19-4, Tin oxide (SnO) 25743-90-2 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate 37186-88-2

56525-42-9, Methyl propyl carbonate 61234-06-8, Lithium 80, silicon 20 atomic 61535-79-3, Lithium 20, tin 80 atomic 62852-65-7 82906-17-0 97037-12-2 113443-18-8, Silicon oxide (SiO) 128975-24-6, Lithium manganese nickel oxide limn0.5ni0.5o2 135573-53-4, Cobalt lithium nickel oxide co0-1lini0-1o2 174421-80-8, Cobalt lithium nitride (Co0.4Li2.6N) 182442-95-1, Cobalt lithium manganese nickel oxide 184912-51-4, Copper lithium nitride (Cu0.4Li2.6N) 476300-71-7, Lithium carbide (LiC6) 945544-42-3
RL: TEM (Technical or engineered material use); USES (Uses)
(stabilized nonaq. electrolytes for rechargeable batteries)

L35 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:1256691 HCAPLUS Full-text
DN 146:30080
TI Nonaqueous electrolytic solution for electrochemical cells
IN Xu, Wu; Deng, Zhongyi; Prabhu, Vaikunth S.; Bolomey, Pascal
PA Ferro Corporation, USA
SO PCT Int. Appl., 19pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006127192	A2	20061130	WO 2006-US15294	20060424
WO 2006127192	A3	20071011		
US 20060269845	A1	20061130	US 2005-138769	20050526

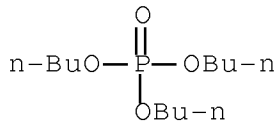
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRAI US 2005-138769 A 20050526
OS MARPAT 146:30080

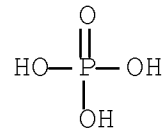
AB The invention relates to the use of an amine oxide as an additive in a nonaq. electrolytic solution The electrolytic solution is suitable for use in electrochem. cells such as lithium batteries and lithium ion batteries. Batteries using this electrolyte solution have long life and high capacity retention.

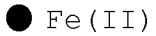
IT 126-73-8, Tributylphosphate, uses 15365-14-7, Iron lithium phosphate felipo4
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. electrolytic solution for electrochem. cells)

RN 126-73-8 HCAPLUS
CN Phosphoric acid tributyl ester (CA INDEX NAME)



RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)





CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 57-57-8, β-Propiolactone 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 78-40-0, Triethyl phosphate 79-20-9, Methyl acetate 96-47-9, 2-Methyltetrahydrofuran 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-54-4, Ethyl butyrate 105-58-8, Diethyl

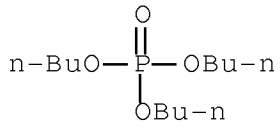
carbonate 105-66-8, Propyl butyrate 106-36-5, Propyl propionate 107-31-3, Methyl formate 108-29-2, 4-Methyl-γ-Butyrolactone 108-32-7, Propylene carbonate 109-21-7, Butyl butyrate 109-60-4, Propyl acetate 109-94-4, Ethyl formate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 110-74-7, Propyl formate 112-48-1, 1,2-DiButoxyethane 115-86-6, Triphenyl phosphate 115-96-8, Tris(2-chloroethyl)phosphate 123-86-4, Butyl acetate 123-91-1, 1,4-Dioxane, uses 126-73-8, Tributylphosphate, uses 141-78-6, Ethyl acetate, uses 358-63-4, Tris(2,2,2-trifluoroethyl)phosphate 512-56-1, Trimethyl phosphate 513-02-0, Triisopropyl phosphate 513-08-6, Tripropyl phosphate 542-28-9, δ-Valerolactone 542-52-9, Dibutyl carbonate 554-12-1, Methyl propionate 590-01-2, Butyl propionate 592-84-7, Butyl formate 616-38-6, Dimethyl carbonate 623-42-7, Methyl butyrate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 629-14-1, 1,2-Diethoxyethane 646-06-0, 1,3-Dioxolane 1330-78-5, Tritolyl phosphate 1679-47-6, 2-Methyl-γ-Butyrolactone 1679-49-8, 3-Methyl-γ-Butyrolactone 2528-39-4, Trihexyl phosphate 4437-85-8, Butylene carbonate 7439-93-2, Lithium, uses 7440-44-0, Carbon, uses 7791-03-9, Lithium perchlorate 12022-46-7, Iron lithium oxide (FeLiO2) 12031-65-1, Lithium nickel oxide (LiNiO2) 12031-95-7, Lithium titanium oxide (Li4Ti5O12) 12042-37-4, Alli 12057-17-9, Lithium manganese oxide (LiMn2O4) 12057-22-6, Lizn 12057-30-6 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide (CoLiO2) 12332-29-5, Iron lithium nitride (FeLi3N2) 12338-02-2 13843-81-7, Dilithium dichromate 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 14307-35-8, Lithium chromate 15365-14-7, Iron lithium phosphate felipo4 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 25743-90-2 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate 56525-42-9, Methyl propyl carbonate 61234-06-8, Lithium 80, silicon 20 atomic 62852-65-7, Dilithium decachlorodecaborate(2_) 82906-17-0 97037-11-1 97037-12-2 128975-24-6, Lithium manganese nickel oxide limn0.5ni0.5o2 135573-53-4, Cobalt lithium nickel oxide co0-1lini0-1o2 174421-80-8, Cobalt lithium nitride (Co0.4Li2.6N) 177997-11-4, Cobalt gallium lithium nickel oxide 177997-12-5, Boron cobalt lithium nickel oxide 177997-13-6, Aluminum cobalt lithium nickel oxide 180997-14-2, Cobalt lithium magnesium nickel oxide 184912-51-4, Copper lithium nitride (Cu0.4Li2.6N) 244304-18-5, Cobalt lithium nickel silicon oxide 244304-20-9, Cobalt lithium nickel titanium oxide 244761-29-3, Lithium bisoxalatoborate 291298-96-9 321201-33-6, Lithium tris(oxalato)phosphate(1-) 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 383187-24-4 427879-42-3

476300-71-7, Lithium carbide (LiC6) 913080-19-0 913080-20-3
916203-51-5, Lithium vanadium phosphate (Li3V(PO4))
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. electrolytic solution for electrochem. cells)

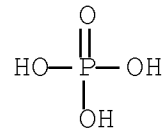
L35 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:1256638 HCAPLUS Full-text
DN 146:10718
TI Triazine compounds for removing acids and water from nonaqueous electrolytes for electrochemical cells
IN Deng, Zhongyi; Decker, Jerry L.; Xu, Wu; Sans, John R.; Bolomey, Pascal
PA Ferro Corporation, USA
SO U.S. Pat. Appl. Publ., 6pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

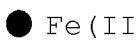
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060269844	A1	20061130	US 2005-138907	200505 26

PRAI US 2005-138907 20050526
OS MARPAT 146:10718
AB A process is provided to produce non-aqueous electrolytic solution for use in batteries having low acid content and low water content. The invention involves removing acids and water from non-aqueous electrolytic solns. typically found in lithium or lithium-ion batteries by using nitrogen-containing compds. such as triazines. After treatment by a triazine such as melamine, the concns. of acids and water in the electrolytic solns. are substantially decreased. The present invention provides a process to prepare extremely pure electrolytic solns. having low (<20 ppm) concns. of both water and acids.
IT 126-73-8, Tributyl phosphate, uses 15365-14-7, Iron lithium phosphate felipo4
RL: TEM (Technical or engineered material use); USES (Uses)
(triazine compds. for removing acids and water from nonaq. electrolytes for electrochem. cells)
RN 126-73-8 HCAPLUS
CN Phosphoric acid tributyl ester (CA INDEX NAME)



RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)





INCL 429325000; 429326000; 029623300; 029623200; 029623500
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 27
IT 57-57-8, Propiolactone 68-12-2, Dmf, uses 78-40-0, Triethyl phosphate 79-20-9, Methyl acetate 96-47-9, 2-Methyltetrahydrofuran 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate, uses 105-54-4, Ethyl butyrate, uses 105-58-8, Diethyl carbonate 105-66-8, Propyl butyrate 106-36-5, Propyl propionate, uses 107-31-3, Methyl formate 108-29-2, 4-Methyl-γ-Butyrolactone 108-32-7, Propylene carbonate 109-21-7, Butyl butyrate, uses 109-60-4, Propyl acetate 109-94-4, Ethyl formate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 110-74-7, Propyl formate 112-48-1, 1,2-Dibutoxyethane 115-86-6, Triphenyl phosphate 115-96-8, Tris(chloroethyl) phosphate 123-86-4, Butyl acetate 123-91-1, 1,4-Dioxane, uses 126-73-8, Tributyl phosphate, uses 141-78-6, Ethyl acetate, uses 358-63-4, Tris(2,2,2-trifluoroethyl) phosphate 512-56-1, Trimethyl phosphate 513-02-0, Triisopropyl phosphate 513-08-6, Tripropyl phosphate

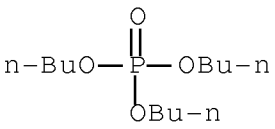
542-28-9, δ-Valerolactone 542-52-9, Dibutyl carbonate 554-12-1, Methyl propionate 590-01-2, Butyl propionate 592-84-7, Butyl formate 616-38-6, Dimethyl carbonate 623-42-7, Methyl butyrate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 629-14-1, 1,2-Diethoxyethane 646-06-0, 1,3-Dioxolane 1330-78-5, Tritolyl phosphate 1679-47-6, 2-Methyl-γ-Butyrolactone 1679-49-8, 3-Methyl-γ-Butyrolactone 2528-39-4, Trihexyl phosphate 4437-85-8, Butylene carbonate 7439-93-2, Lithium, uses 7439-93-2D, Lithium, salt 7440-44-0, Carbon, uses 7791-03-9, Lithium perchlorate 12022-46-7, Iron lithium oxide (FeLiO2) 12031-65-1, Lithium nickel oxide (LiNiO2) 12031-95-7, Lithium titanium oxide (Li4Ti5O12) 12042-37-4, Alli 12057-17-9, Lithium manganese oxide (LiMn2O4) 12057-22-6, Lizn 12057-30-6 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide (CoLiO2) 12332-29-5, Iron lithium nitride (FeLi3N2) 12338-02-2 13843-81-7, DiLithium dichromate 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 14307-35-8, Lithium chromate 15365-14-7, Iron lithium phosphate felipo4 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 25743-90-2 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate 56525-42-9, Methyl propyl carbonate 61234-06-8, Lithium 80, silicon 20 atomic 62852-65-7, DiLithium decachlorodecaborate(2-) 82906-17-0 97037-11-1 97037-12-2 128975-24-6, LIthium manganese nickel oxide LiMn0.5Ni0.5O2 135573-53-4, Cobalt lithium nickel oxide co0-1lini0-1o2 174421-80-8, Cobalt lithium nitride (Co0.4Li2.6N) 177997-11-4, Cobalt gallium lithium nickel oxide 177997-12-5, Boron cobalt lithium nickel oxide 177997-13-6, Aluminum cobalt lithium nickel oxide 180997-14-2, Cobalt lithium magnesium nickel oxide 184912-51-4, Copper lithium nitride (Cu0.4Li2.6N) 244304-18-5, Cobalt lithium nickel silicon oxide 244304-20-9, Cobalt lithium nickel titanium oxide 244761-29-3, Lithium bisoxalatoborate 291298-96-9 321201-33-6, Lithium tris(oxalato)phosphate 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 383187-24-4 427879-42-3, Lithium bis(difluoromalonato)borate 471294-34-5 476300-71-7, Lithium carbide (LiC6) 913080-19-0, Lithium (difluoromalonato) (oxalato)borate 913080-20-3, Lithium tris(difluoromalonato) phosphate
RL: TEM (Technical or engineered material use); USES (Uses)
(triazine compds. for removing acids and water from nonaq. electrolytes for electrochem. cells)

L35 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:1256604 HCAPLUS Full-text

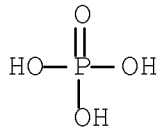
DN 146:30076
TI Nonaqueous electrolytic solution for electrochemicals cells
IN Xu, Wu; Deng, Zhongyi; Bolomey, Pascal
PA Ferro Corporation, USA
SO U.S. Pat. Appl. Publ., 10pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060269846	A1	20061130	US 2005-138905	200505 26

PRAI US 2005-138905 20050526
OS MARPAT 146:30076
AB The invention relates to the use of a nitrogen silylated compound as additive in a nonaq. electrolytic solution The electrolytic solution is suitable for use in electrochem. cells such as lithium and lithium ion batteries. Batteries using this electrolytic solution have long cycle life and high capacity retention.
IT **126-73-8**, Tributyl phosphate, uses **15365-14-7**, Iron lithium phosphate felipo4
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. electrolytic solution for electrochems. cells)
RN 126-73-8 HCAPLUS
CN Phosphoric acid tributyl ester (CA INDEX NAME)



RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

INCL 429326000; 429339000; 429336000; 429337000; 429328000; 429329000; 029623200; 029623300; 029623500

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 57-57-8, β-Propiolactone 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 78-40-0, Triethyl phosphate 79-20-9, Methyl acetate 96-47-9, 2-Methyltetrahydrofuran 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-54-4, Ethyl butyrate 105-58-8, Diethyl carbonate 105-66-8, Propyl butyrate 106-36-5, Propyl propionate 107-31-3, Methyl formate 108-29-2, 4-Methylγ-Butyrolactone 108-32-7, Propylene carbonate 109-21-7, Butyl butyrate 109-60-4, Propyl acetate 109-94-4, Ethyl formate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 110-74-7, Propyl formate 112-48-1, 1,2-Dibutoxyethane 115-86-6, Triphenyl phosphate 115-96-8, Tris(2-chloroethyl)phosphate 123-86-4, Butyl acetate 123-91-1, 1,4-Dioxane, uses 126-73-8, Tributyl phosphate, uses 141-78-6, Ethyl acetate, uses 358-63-4, Tris(2,2,2-trifluoroethyl)phosphate 512-56-1, Trimethyl phosphate 513-02-0, Triisopropyl phosphate 513-08-6, Tripropyl phosphate 542-28-9, δ-Valerolactone 542-52-9, Dibutyl carbonate 554-12-1, Methyl propionate 590-01-2, Butyl propionate 592-84-7, Butyl formate 616-38-6, Dimethyl carbonate 623-42-7, Methyl butyrate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 629-14-1, 1,2-Diethoxyethane 646-06-0, 1,3-Dioxolane 1330-78-5, Tritolyl phosphate 1679-47-6, 2-Methylγ-Butyrolactone 1679-49-8, 3-Methylγ-Butyrolactone 2528-39-4, Trihexyl phosphate 4437-85-8, Butylene carbonate 7439-93-2, Lithium, uses 7440-44-0, Carbon, uses 7791-03-9, Lithium perchlorate 12022-46-7, Iron lithium oxide (FeLiO2) 12031-65-1, Lithium nickel oxide (LiNiO2) 12031-95-7, Lithium titanium oxide (Li4Ti5O12)

12042-37-4, Alli 12057-17-9, Lithium manganese oxide (LiMn2O4) 12057-22-6, Lizn 12057-30-6 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide (CoLiO2) 12332-29-5, Iron lithium nitride (FeLi3N2) 12338-02-2 13843-81-7, Dilithium dichromate 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 14307-35-8, Lithium chromate 15365-14-7, Iron lithium phosphate felipo4 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 25743-90-2 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate 56525-42-9, Methyl propyl carbonate 61234-06-8, Lithium 80, silicon 20 atomic 62852-65-7, Dilithium decachlorodecaborate(2-) 82906-17-0 97037-11-1 97037-12-2 128975-24-6, Lithium manganese nickel oxide limn0.5ni0.5o2 135573-53-4, Cobalt lithium nickel oxide Co0-1LiNi0-1O2 174421-80-8, Cobalt lithium nitride (Co0.4Li2.6N) 177997-11-4, Cobalt gallium lithium nickel oxide 177997-12-5, Boron cobalt lithium nickel oxide 177997-13-6, Aluminum cobalt lithium nickel oxide 180997-14-2, Cobalt lithium magnesium nickel oxide 184912-51-4, Copper lithium nitride (Cu0.4Li2.6N) 244304-18-5, Cobalt lithium nickel silicon oxide 244304-20-9, Cobalt lithium nickel titanium oxide 244761-29-3, Lithium bisoxalatoborate 291298-96-9 321201-33-6, Lithium tris(oxalato)phosphate(1-) 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 383187-24-4 427879-42-3 471294-34-5 476300-71-7, Lithium carbide (LiC6) 913080-19-0 913080-20-3
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. electrolytic solution for electrochems. cells)

L35 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:1124296 HCAPLUS Full-text
DN 145:457702
TI Nonaqueous electrolytic solution for lithium secondary battery
IN Xu, Wu; Deng, Zhongyi; Bolomey, Pascal
PA Ferro Corporation, USA
SO U.S. Pat. Appl. Publ., 6pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20060240327	A1	20061026	US 2005-113823	20050425
	US 7255965	B2	20070814		

WO 2006115737 A1 20061102 WO 2006-US13113
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
EP 1875540 A1 20080109 EP 2006-749551
200604
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R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
KR 2008000595 A 20080102 KR 2007-723923
200710
18

PRAI US 2005-113823 A 20050425
US 2005-113966 A 20050425
US 2005-196782 A 20050803
WO 2006-US13113 W 20060410

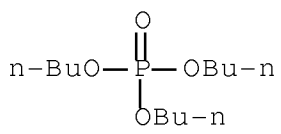
OS MARPAT 145:457702

AB The use of lithium bis(oxalate)borate as an additive in a lithium secondary battery provides improved battery performance such as long life and high capacity retention after high temperature storage.

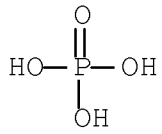
IT 126-73-8, Tributyl phosphate, uses 15365-14-7, Iron lithium phosphate felipo4
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolytic solution for lithium secondary battery)

RN 126-73-8 HCAPLUS

CN Phosphoric acid tributyl ester (CA INDEX NAME)



RN 15365-14-7 HCAPLUS
CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

INCL 429324000; 429338000; 429342000; 429343000; 429339000; 429326000; 429330000; 429331000; 429332000; 429217000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 57-57-8, β-Propiolactone 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 78-40-0, Triethyl phosphate 79-20-9, Methyl acetate 96-47-9, 2-Methyl tetrahydrofuran 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-54-4, Ethyl butyrate 105-58-8, Diethyl carbonate 105-66-8, Propyl butyrate 106-36-5, Propyl propionate, uses 107-31-3, Methyl formate 108-29-2, 4-Methyl-γ-Butyrolactone 108-32-7, Propylene carbonate 109-21-7, Butyl butyrate 109-60-4, Propyl acetate 109-94-4, Ethyl formate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 110-74-7, Propyl formate 112-48-1, 1,2-Dibutoxyethane 115-86-6, Triphenyl phosphate 115-96-8, Tris(2-chloroethyl)phosphate 123-86-4, Butyl acetate 123-91-1, 1,4-Dioxane, uses 126-73-8, Tributyl phosphate, uses 141-78-6, Ethyl acetate, uses 358-63-4, Tris(2,2.2-trifluoroethyl)phosphate 512-56-1, Trimethyl phosphate 513-02-0, Triisopropyl phosphate 513-08-6, Tripropyl phosphate 542-28-9, δ-Valerolactone 542-52-9, Dibutyl carbonate 554-12-1, Methyl propionate 590-01-2, Butyl propionate 592-84-7, Butyl formate 616-38-6, Dimethyl carbonate 623-42-7, Methyl butyrate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 629-14-1, 1,2-Diethoxyethane 646-06-0, 1,3-Dioxolane 1330-78-5, Tritolyl

phosphate 1679-47-6, 2-Methyl-γ-Butyrolactone 1679-49-8, 3-Methyl-γ-Butyrolactone 2528-39-4, Trihexyl phosphate 4437-85-8, Butylene carbonate 7439-93-2, Lithium, uses 7440-44-0, Carbon, uses 7791-03-9, Lithium perchlorate 12022-46-7, Iron lithium oxide (FeLiO2) 12031-65-1, Lithium nickel oxide (LiNiO2) 12031-95-7, Lithium titanium oxide (Li4Ti5O12) 12042-37-4, Alli 12057-17-9, Lithium manganese oxide (LiMn2O4) 12057-22-6, Lizn 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide (CoLiO2) 12332-29-5, Iron lithium nitride (FeLi3N2) 13843-81-7, Lithium dichromate li2cr2o7 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 14307-35-8, Lithium chromate 15365-14-7, Iron lithium phosphate felipo4 21324-40-3, Lithium hexafluorophosphate 25743-90-2 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate, uses 56525-42-9, Methyl propyl carbonate, uses 61234-06-8, Lithium 80, silicon 20 atomic 62852-65-7, Dilithium decachlorodecaborate(2-) 97037-04-2 97037-11-1 97037-12-2 128975-24-6, Lithium manganese nickel oxide limn0.5ni0.5o2 131344-56-4, Cobalt lithium nickel oxide 159035-51-5 174421-80-8, Cobalt lithium nitride (Co0.4Li2.6N) 184912-51-4, Copper lithium nitride (Cu0.4Li2.6N) 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 405159-62-8 476300-71-7, Lithium carbide (LiC6)
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolytic solution for lithium secondary battery)
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:1124255 HCAPLUS Full-text
DN 145:457700
TI Nonaqueous electrolytic solution with mixed salts
IN Xu, Wu; Deng, Zhongyi; Bolomey, Pascal; Payne, Martin W.
PA Ferro Corporation, USA
SO U.S. Pat. Appl. Publ., 6pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060240322	A1	20061026	US 2005-113966	200504 25
US 7238453	B2	20070703		

US 20060236528 A1 20061026 US 2005-196782
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WO 2006115681 A2 20061102 WO 2006-US11539
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WO 2006115681 A3 20070510
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EP 1875540 A1 20080109 EP 2006-749551
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	CN 101164187	A	20080416	CN 2006-80013840	
					20071024
PRAI	US 2005-111823	A2	20050422		
	US 2005-113823	A	20050425		
	US 2005-113966	A2	20050425		
	US 2005-196782	A	20050803		
	WO 2006-US11539	W	20060329		
	WO 2006-US13113	W	20060410		

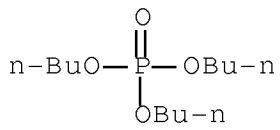
OS MARPAT 145:457700

AB The use of at least two electrolyte salts in a lithium secondary battery provides improved battery performance such as long cycle life of high discharge capacity and high capacity retention.

IT **126-73-8**, Tributyl phosphate, uses **15365-14-7**, Iron lithium phosphate felipo4
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolytic solution with mixed salts)

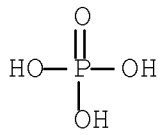
RN 126-73-8 HCAPLUS

CN Phosphoric acid tributyl ester (CA INDEX NAME)



RN 15365-14-7 HCAPLUS

CN Phosphoric acid, iron(2+) lithium salt (1:1:1) (9CI) (CA INDEX NAME)



● Fe(II)

● Li

INCL 429188000; 429338000; 429342000; 429343000; 429337000; 429329000; 429330000; 429331000; 429332000; 429231100

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 57-57-8, β-Propiolactone 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses 78-40-0, Triethyl phosphate 79-20-9, Methyl acetate 96-47-9, 2-Methyltetrahydrofuran 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-37-3, Ethyl propionate 105-54-4, Ethyl butyrate 105-58-8, Diethyl carbonate 105-66-8, Propyl butyrate 106-36-5, Propyl propionate, uses 107-31-3, Methyl formate 108-29-2, 4-Methyl-γ-Butyrolactone 108-32-7, Propylene carbonate 109-21-7, Butyl butyrate 109-60-4, Propyl acetate 109-94-4, Ethyl formate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 110-74-7, Propyl formate 112-48-1, 1,2-Dibutoxyethane 115-86-6, Triphenyl phosphate 115-96-8, Tris(2-chloroethyl)phosphate 123-86-4, Butyl acetate 123-91-1, 1,4-Dioxane, uses 126-73-8, Tributyl phosphate, uses 141-78-6, Ethyl acetate, uses 358-63-4, Tris(2,2,2-trifluoroethyl)phosphate 512-56-1, Trimethyl phosphate 513-02-0, Triisopropyl phosphate 513-08-6, Tripropyl phosphate 542-28-9, δ-Valerolactone 542-52-9, Dibutyl carbonate 554-12-1, Methyl propionate 590-01-2, Butyl propionate 592-84-7, Butyl formate 616-38-6, Dimethyl carbonate 623-42-7, MEthyl butyrate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 629-14-1, 1,2-Diethoxyethane 646-06-0, 1,3-Dioxolane 1330-78-5, Tritolyl phosphate 1679-47-6, 2-Methyl-γ-Butyrolactone 1679-49-8, 3-Methyl-γ-Butyrolactone 2528-39-4, Trihexyl phosphate 4437-85-8, Butylene carbonate 7439-93-2, Lithium, uses 7440-44-0, Carbon, uses 7791-03-9, LIthium perchlorate 12022-46-7, Iron lithium oxide (FeLiO2) 12031-65-1, Lithium nickel oxide (LiNiO2) 12031-95-7, Lithium titanium oxide (Li4Ti5O12)

12042-37-4, Alli 12057-17-9, Lithium manganese oxide (LiMn2O4) 12057-22-6, Lizn 12162-79-7, Lithium manganese oxide limno2 12190-79-3, Cobalt lithium oxide (CoLiO2) 12332-29-5, Iron lithium nitride (FeLi3N2) 12338-02-2 13843-81-7, Dilithium dichromate 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 14307-35-8, Lithium chromate 15365-14-7 , Iron lithium phosphate felipo4 21324-40-3, Lithium hexafluorophosphate 25743-90-2 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate, uses 56525-42-9, Methyl propyl carbonate, uses 61234-06-8, Lithium80, silicon 20 atomic 62852-65-7, Lithium decachlorodecaborate(2-) 82906-17-0 97037-11-1 97037-12-2 128975-24-6, Lithium manganese nickel oxide limn0.5ni0.5o2 131344-56-4, Cobalt lithium nickel oxide 174421-80-8, Cobalt lithium nitride (Co0.4Li2.6N) 184912-51-4, Copper lithium nitride (Cu0.4Li2.6N) 244761-29-3, Lithium bisoxalatoborate 291298-96-9 321201-33-6 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 383187-24-4 427879-42-3 476300-71-7, Lithium carbide (LiC6) 913080-19-0 913080-20-3
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolytic solution with mixed salts)
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1999:708588 HCAPLUS Full-text
DN 131:327534
TI Fibrinogen-coated droplets of liquid hydrophobic phases
IN Retzinger, Gregory S.; Deanglis, Ashley P.
PA University of Cincinnati, USA
SO PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9955314	A1	19991104	WO 1999-US9940	199904 28
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2327469	A1	19991104	CA 1999-2327469	199904

EP 1073425 A1 20010207 EP 1999-921733
199904
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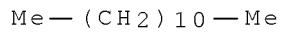
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
PRAI US 1998-83709P P 19980430
WO 1999-US9940 W 19990428

AB Fibrinogen adsorbs spontaneously from aqueous media to droplets of liquid hydrophobic (oil) phases dispersed in those same media. Examples of such phases include mineral oils, straight chain hydrocarbons, and various plant- and animal-derived oils. Lecithin pre-existing on the surface of oil droplets reduces significantly the amount of fibrinogen that can otherwise bind to them. When bound, fibrinogen remains active in the classic sense of fibrin gelation. As a consequence, oil droplets coated with fibrinogen can participate in biol. important adhesive processes in which the protein would be expected to participate. Certain polyanions, e.g., heparin, pentosan polysulfate, dextran sulfate and suramin, bind to adsorbed fibrin(ogen) and prevent thrombin-dependent adhesion of fibrinogen-coated surfaces. Thus, these polyanions can be used to prevent adhesion between fibrin(ogen)-coated oil droplets and other fibrin(ogen)-coated surfaces. Potential practical applications and biol. implications of these phenomena include treating or assessing diseases associated with fibrin clots, other fibrin(ogen)-coated surfaces, and/or fibrin(ogen)-associated processes, and for formulation of vehicle for the targeted delivery of drugs and as an adjuvant for vaccines.

IT **112-40-3**, Dodecane
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(fibrin(ogen)-coated droplets of hydrophobic phases for diagnostic and therapeutic uses)

RN 112-40-3 HCAPLUS
CN Dodecane (CA INDEX NAME)



IT **140207-93-8**, Sodium pentosan polysulfate
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyanions prevention of adhesion between fibrin(ogen)-coated

oil droplets and other fibrin(ogen)-coated surfaces)
RN 140207-93-8 HCAPLUS
CN 4-O-Methyl-α-D-glucurono-β-D-xylan, hydrogen sulfate, sodium salt (CA INDEX NAME)

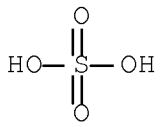
CM 1

CRN 9062-57-1
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



IC ICM A61K009-50
ICS A61K009-16
CC 63-6 (Pharmaceuticals)
IT 111-01-3, Squalane 111-02-4, Squalene 112-40-3, Dodecane
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(fibrin(ogen)-coated droplets of hydrophobic phases for diagnostic and therapeutic uses)
IT 129-46-4, Sodium suramin 9041-08-1, Heparin sodium 9042-14-2, Dextran sulfate 140207-93-8, Sodium pentosan polysulfate 157009-81-9
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyanions prevention of adhesion between fibrin(ogen)-coated oil droplets and other fibrin(ogen)-coated surfaces)
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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